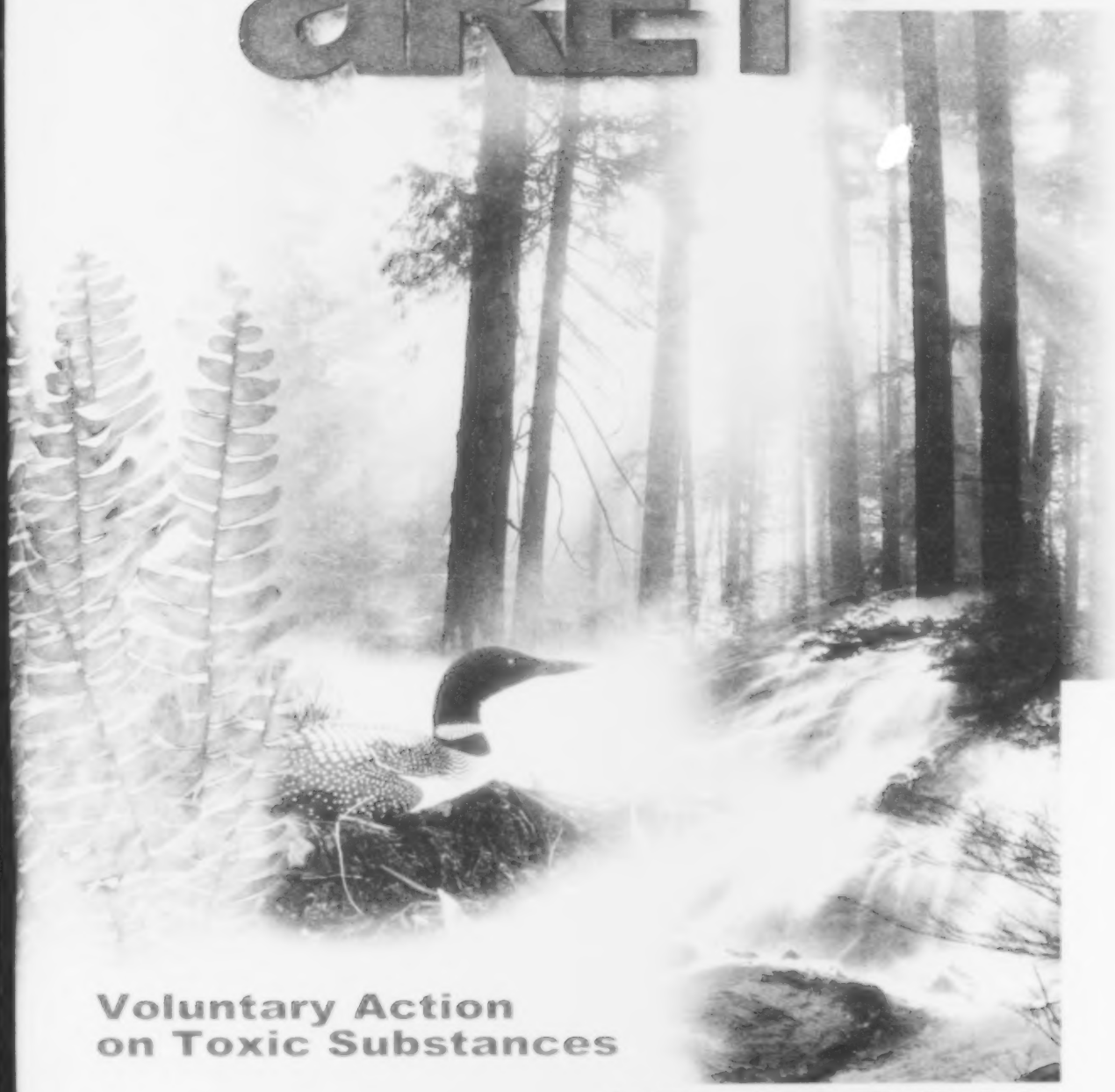
Environmental Leaders

aRET 4



Voluntary Action on Toxic Substances

aRET

Accelerated Reduction/Elimination of Toxics

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Questions and enquiries should be directed to:
ARET Secretariat
13th Floor, Place Vincent Massey
Ottawa, Ontario K1A 0H3
Telephone: 819-953-9339
Fax: 819-953-7970
E-mail: aret@ec.gc.ca

Copies of this document are available from:
Inquiry Centre
Environment Canada
Ottawa, Ontario K1A 0H3
Telephone: 1-800-668-6767
819-997-2800
Fax: 819-953-2225
E-mail: enviroinfo@ec.gc.ca

This document is also available on Environment Canada's **Green Lane** at http://www.ec.gc.ca/nopp/aret

Her Majesty the Queen in Right of Canada, Environment Canada, 2003

104-02403/

Minister's Message

ARET
Accelerated Reduction/Elimination of Toxics

Dear Sir/Madam:

I am pleased to release *Environmental Leaders 4*, the final report of Canada's first nationwide, voluntary pollution reduction initiative, the Accelerated Reduction/Elimination of Toxics (ARET) program, which ran from 1995 to 2000.

The results of this innovative approach have been impressive indeed. The program was embraced by a wide cross-section of Canadian industry, encompassing eight major industrial sectors. In all, 318 separate facilities, representing 171 individual corporations, stepped forward to participate in this pioneering venture. Those facilities were able to achieve very significant reductions in their releases of toxic substances. In fact, the final tally shows a 27 825-tonne, or 72-per-cent, reduction from base year reporting. Over the entire course of the ARET program, the Canadian environment benefited from a reduction in releases of 70 388 tonnes of toxic substances.

I am very impressed by the way in which Canadian industry responded to the ARET challenge. The successes of the program, and the solid advice received on principles and design criteria for voluntary initiatives, contributed to Environment Canada's *Policy Framework for Environmental Performance Agreements*, issued in June 2001. Founded on consultation with industry, non-governmental organizations and other governments, this Environmental Performance Agreement policy framework will support and encourage further industry commitments to pollution reduction.

I congratulate all of the ARET participants on their achievements. I would encourage you to demonstrate your continued environmental leadership, through the development of Environmental Performance Agreements with my department.

Yours sincerely,

David Anderson, P.C., M.P.

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What is ARET?

ARET (Accelerated Reduction/Elimination of Toxics) is a multi-stakeholder pollution prevention and abatement initiative involving industry, health and professional organizations, and governments across Canada. Its purpose is to decrease the adverse effects of toxic substances on human health and the environment by accelerating the reduction or elimination of releases of toxic substances, including those that persist in the environment and may bioaccumulate in living organisms.

The ARET initiative promotes cooperation among industry, governments, and other stakeholders and provides participants the opportunity to gain credibility, public trust, and support while improving their environmental performance. ARET participants voluntarily set release reduction targets, thereby creating an open and non-prescriptive approach to the prevention of toxic pollution. Participants report publicly on their progress towards achieving toxic reduction targets.

THE ARET VISION

In the long term, ARET seeks the:

- virtual elimination of releases of persistent, bioaccumulative, and toxic substances; and
- reduction of other toxic releases to levels insufficient to cause harm to human health and the environment.

ARET TARGETS AND SCHEDULES

By the end of the year 2000, ARET participants aimed to reduce:

- persistent, bioaccumulative, and toxic substance releases by 90 percent;
- all other toxic substance releases by 50 percent from base year levels.

Best efforts by all participants on reducing any of the ARET listed substances were also encouraged.

The Key Components of ARET

The four key components of the ARET process are:

1. the development of the ARET substances list using science-based criteria and multi-stakeholder agreement;
2. the ARET challenge to potential program participants;
3. the response to the ARET challenge in the form of an ARET action plan where program participants make a public commitment to achieve specific reduction or elimination goals by a specific date; and
4. the ARET participants' report of progress achieved and the annual publication of results.

The ARET Substance List

The ARET substance list includes 117 toxic substances, 30 of which are identified as being persistent, bioaccumulative and toxic **(PBT)**. The list resulted from a scientific assessment of 2000 substances of concern by a panel of toxicology experts, including representatives from government, industry, and health and environmental organizations. The list of ARET substances and additional detail on the substance selection process are found in Appendix 1.

The ARET list of substances includes five categories:

1. **List A-1** substances (30) meet PBT criteria;
2. **List A-2** substances (2) consensus was not achieved on whether these two substances meet the PBTcriteria;
3. **List B-1** substances (8) meet bioaccumulation and toxicity criteria;
4. **List B-2** substances (33) meet persistence and toxicity criteria; and
5. **List B-3** substances (44) meet toxicity criteria only.

The ARET Challenge

In 1994, the ARET Stakeholders Committee challenged selected Canadian companies, institutions, government departments, and agencies to voluntarily reduce or eliminate their releases of ARET substances by the year 2000. Participants were asked to choose a base year after 1987 against which to measure their results and to define the amount by which each substance would be reduced. Not all facilities could commit to the stringent 90/50 percent reduction targets set out at the outset of the program, in which case "best effort" participation was encouraged. ARET action plans can be obtained through the contacts listed in Appendix 4.

This report marks the end of the ARET challenge issued in 1994. It details progress over the life of the program in Chapter 2 and progress by sector in Chapter 3, as well as giving an update on participants' progress since the last Environmental Leaders report. Chapter 4 outlines Environment Canada's progress in developing a successor program to ARET.

ARET achievements have been reported in a series of Environmental Leaders reports and updates starting in January 1995. The previous report, Environmental Leaders 3 Update, summarized data up to and including the 1998 calendar year. This report includes data for the final two years of the program, 1999 and 2000. All ARET progress reports are available from the Inquiry Centre:

Environment Canada
Ottawa, Ontario
K1A 0H3
819-997-2800
or 1-800-668-6767 (toll-free)
enviroinfo@ec.gc.ca

A listing of reports, as well as other documentation related to the program, is available on the ARET website (www.ec.gc.ca/nopp/aret).

A BRIEF HISTORY OF ARET

ARET grew out of a proposal in late 1991 from a group of leading industry executives and environmentalists, known as the New Directions Group, to the federal Minister of the Environment. They proposed a cooperative approach to identify and then reduce or eliminate the most significant toxic substances. The proposal suggested that stakeholders work together to develop a framework for action on toxics that would be faster and more effective than relying on regulations alone.

In 1992, the Minister responded by creating the ARET Stakeholders Committee. One of the Committee's first tasks was evaluating the toxicity of 2000 substances and ranking these substances according to their persistence, bioaccumulation, and toxicity. By late 1993, the Committee finished its substance identification, assessment, and categorization, resulting in a list of 117 toxic substances for immediate action.

It soon became apparent that the Committee could not reach consensus on the issue of eliminating substance use as opposed to reducing substance releases. The viability of voluntary approaches to achieve action on toxics was also questioned. Pollution Probe, the Canadian Labour Congress, the Toxics Watch Society of Alberta, the West Coast Environmental Law Association, Great Lakes United, and the Union québécoise pour la conservation de la nature withdrew from the ARET Stakeholders Committee at that time. The remaining Committee members chose to continue the ARET process.

THE ARET STAKEHOLDERS COMMITTEE

The ARET Stakeholders Committee included representatives from industry, health, and professional associations, as well as from both federal and provincial governments, as follows:

- Aluminium Association of Canada
- British Columbia Ministry of Water, Lands and Air Protection
- Canadian Chemical Producers' Association
- Canadian Consumer Specialty Products Association (formerly Canadian Manufacturers of Chemical Specialties)
- Canadian Electricity Association
- Canadian Manufacturers and Exporters
- Canadian Petroleum Products Institute
- Canadian Steel Producers' Association
- Chemical Institute of Canada
- Comité de santé environnementale du Québec
- Environment Canada
- Forest Products Association of Canada (formerly Canadian Pulp and Paper Association)
- Health Canada
- Industry Canada
- Mining Association of Canada
- Nova Scotia Department of Environment & Labour
- Ontario Ministry of the Environment

Program Contact

You are welcome to visit the ARET website at www.ec.gc.ca/aret. You can also speak directly to someone about the ARET program or an ARET-related issue by calling any ARET Stakeholders Committee member listed in Appendix 6. You may contact the ARET Secretariat by phone at 819-953-9339, by fax at 819-953-7970, or by e-mail at aret@ec.gc.ca.

ARET Progress

Participation

There are 318 facilities from 171 companies and government organizations that have submitted and implemented action plans under the ARET program (see Appendix 4 for a listing of these, with contacts). Two companies submitted new action plans to ARET in 1999, after the publication of the Environmental Leaders 3 Update report. These companies are Kinross Gold Corp. for its Macassa Mine Operation (the mining and smelting sector) and the Oil Sands Group of Suncor Energy Inc. (the oil, gas, and petroleum products sector).

1999 REPORTING YEAR — KEY ARET ACHIEVEMENTS

- Releases were reduced by 27 112 tonnes, or 70 percent from base year levels.
- One hundred and seventy-one companies and government organizations submitted and implemented ARET action plans.
- Forty-nine percent of facilities met or exceeded ARET year 2000 targets for all categories of substances on which they reported.
- Year 2000 targets were exceeded for three of the five ARET substance categories: B-1, B-2, and B-3.

An additional 145 companies and government organizations have filed Declarations of Support for ARET in which they state that they have negligible or no releases of ARET substances (see Appendix 5 for a listing). Three of these companies have become supporters of the ARET program since the Environmental Leaders 3 Update report.

Overall Reduction Progress

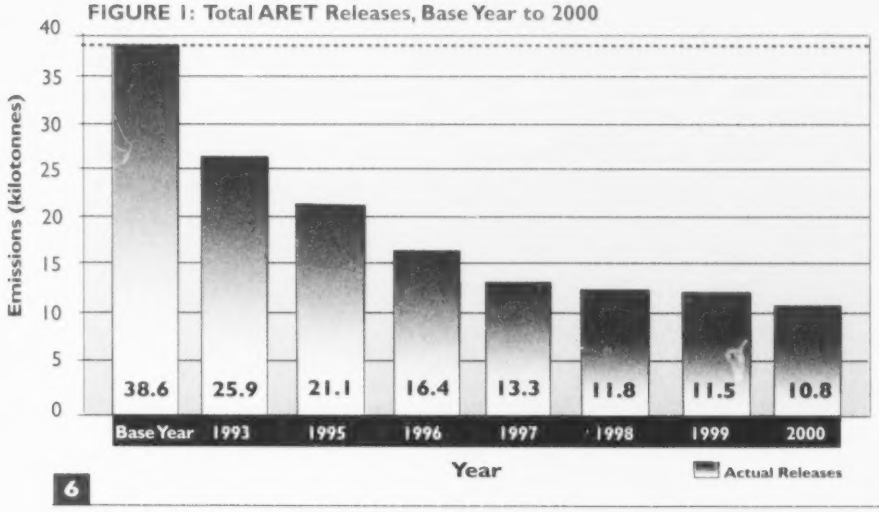
For 1999, ARET participants reported release reductions of 333 tonnes, or 3 percent lower than 1998 reported releases. In 1999, ARET releases totalled 11 473 tonnes, 70 percent below base year levels.

For 2000, ARET participants continued to reduce releases by 713 tonnes, or 6 percent lower than releases reported for the previous year. This puts total release reduction of ARET participants since the Environmental Leaders 3 Update report at 1 046 tonnes, or 9 percent lower than 1998 levels. For 2000, ARET releases totalled 10 760 tonnes.

The ARET program therefore succeeded in reducing releases into the environment by over 72 percent from base year levels, meaning that, on an annual basis, 27 825 tonnes of ARET substances are no longer being released into the environment.

Actual and projected releases reported by ARET participants from the base year until 2000 are illustrated in Figure 1. Releases reported by each facility over the same period are presented in Appendix 2.

FIGURE 1: Total ARET Releases, Base Year to 2000



2000 REPORTING YEAR — KEY ARET ACHIEVEMENTS

- Releases were reduced by 27 825 tonnes, or 72 percent from base year levels.
- Fifty-four percent of facilities met or exceeded ARET year 2000 targets for all categories of substances on which they reported.
- ARET participants continued to exceed year 2000 targets for three of the ARET substance categories: B-1, B-2, and B-3.
- Year 2000 targets were met or exceeded for 66 percent of ARET substances being reported.

Changes to Reduction Commitments

Base year release levels have increased by 10 697 tonnes, from 27 888 tonnes reported in Environmental Leaders 1 to 38 585 tonnes for this report. The base year, which was selected by ARET participants when they joined the program, could be any year after 1987.

The overall release reduction committed to by ARET participants grew as new companies joined ARET. It also changed as existing action plans were revised due to improved monitoring and reporting methods and as participants added previously unreported ARET substances to their action plans. Some ARET participants also changed their reduction commitment as they implemented new strategies to target the reduction or elimination of ARET substances.

Reductions by Substance Category

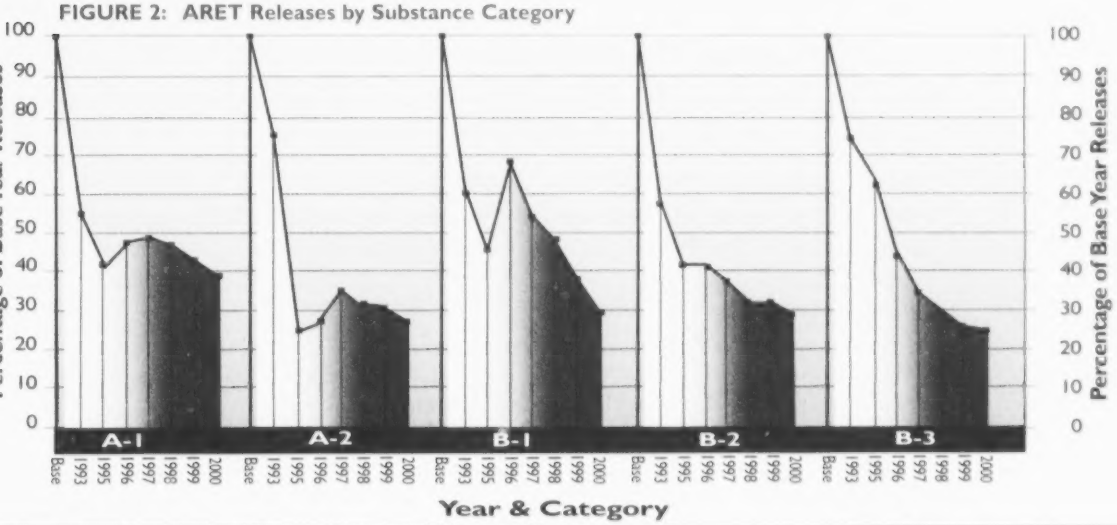
Companies generally measure their achievements against the short-term targets for categories of substances on which they report. By the end of 1999, 49 percent of facilities had already met or exceeded the ARET short-term targets for all categories of substances on which they report. By the end of 2000, a total of 54 percent met or exceeded their short-term targets.

Including the 1999 reporting year, ARET participants had exceeded the 50 percent short-term reduction targets for three substance categories: B-1 (62 percent), B-2 (67 percent), and B-3 (72 percent). The target for List A-2 was "best efforts," since consensus could not be reached as to whether these substances met all three of the toxicity, bioaccumulation, and persistence criteria. List A-2 releases were reduced by 70 percent. The releases of List A-1 substances, for which the short-term target was 90 percent, were reduced by 57 percent.

Participants continued to reduce releases in all categories in 2000. Release reduction targets were once again met and exceeded for three of the ARET categories: 70 percent for B-1 category chemicals, 70 percent for B-2 chemicals, and 73 percent for B-3 chemicals. For List A-2 chemicals, ARET participants were able to decrease releases by 72 percent. The program fell short of the 90 percent challenge target for A-1 substances, but achieved a significant release reduction of 61 percent below base year levels.

Releases of substances in each of the five substance categories from the base year to 2000, as reported by ARET participants, are shown in Figure 2.

FIGURE 2: ARET Releases by Substance Category



List A-1

In 1999, releases of A-1 substances were 476 tonnes, a decrease of 44 tonnes (8 percent) below 1998 levels. Dofasco, from the steel sector, and Alcan, an aluminium producer, had significant reductions in their releases of List A-1 polycyclic aromatic hydrocarbons (PAHs) in 1999.

PAHs are a group of chemical substances characterized by a structure containing more than one benzene ring. They are emitted by a number of natural and human sources, such as wood and fuel combustion, steel and aluminium production, and forest fires. The number and arrangement of benzene rings vary between different PAHs and influence their characteristics, including their toxicity, bioaccumulation, and persistence. Many PAHs meet the criteria of the initial ARET substance selection process for A-1 substances. Other PAH compounds are included in Lists B-1 and B-2.

Reduction of releases of A-1 substances continued in 2000. Releases were reduced by an additional 38 tonnes, or 8 percent lower than 1999 levels. These reductions were due largely to the closing of Alcan's Ile-Maligne 1940s-era smelter as part of Alcan's smelter modernization program (see Chapter 3).

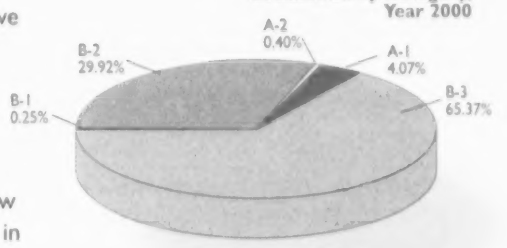
The total reduction of A-1 substances since the last Environmental Leaders report is 82 tonnes, or 16 percent lower than 1998 levels.

Total releases of A-1 substances (99 percent by weight are PAHs) have been reduced by 680 tonnes, or 61 percent from base year levels. Although the challenge target of 90 percent for A-1 substances was not achieved, the achievement is nevertheless substantial. Participants reporting on A-1 substances have indicated that the ARET 90 percent challenge reduction goal was not attained due to the prohibitive capital expenditures required.

The success achieved in reducing the releases of substances on the A-1 list is not adequately represented by the numerical totals presented above. When the non-PAH micropollutants, such as dioxins and furans, from List A-1 are considered separately, their reduction from base year levels exceeds 99 percent. This is a separate and significant achievement that is not apparent in the overall results for List A-1 substances, because the non-PAH micropollutants are emitted in much smaller quantities, and associated reductions are hidden within the aggregate category.

The percent contributions of each of the five substance categories to total releases in 2000 are illustrated in Figure 3.

FIGURE 3: Substance Release Breakdown by Category, Year 2000



Total 2000: 10 760 tonnes

List A-2

Releases of List A-2 substances in 1999 decreased by 1.2 tonnes, or 2 percent below 1998 levels. The reduction trend continued in 2000, as participants reported a reduction of 5.2 tonnes, or 11 percent from 1999 levels.

Since the Environmental Leaders 3 Update report, releases of List A-2 substances have decreased by 6.4 tonnes, or 13 percent below the 1998 level of 49.5 tonnes. This decrease is due mainly to cadmium[1] reductions at Noranda's Brunswick Smelting operation and Hudson Bay Mining and Smelting's Flin Flon Smelter.

Over the life of the ARET program, the total reduction in releases of List A-2 substances is over 110 tonnes, or 72 percent lower than base year levels.

[1] Please note that some program participants have commented that no analytical method exists for the specific metallic compounds identified on the ARET list (see Appendix 1), and thus the total value of these metallic compounds is reported. Cadmium, for example, is listed as cadmium — inhalable and soluble inorganic, but in many cases the value reported is total cadmium.

List B-1

ARET participants reported a reduction in releases of List B-1 substances of 10 tonnes, or 23 percent, from 1998 to 1999. In 2000, List B-1 substances were further reduced by 7 tonnes, or 22 percent lower than 1999 levels. Since the Environmental Leaders 3 Update report, the total reduction of List B-1 substance releases was 17 tonnes, or 40 percent. This significantly large reduction from 1998 levels is mainly due to decreases in List B-1 PAH releases from Dofasco's Hamilton steel operations.

The total reduction of B-1 substances over the entire program totals 63 tonnes, or 70 percent from base year levels.

List B-2

Releases of List B-2 substances increased by 98 tonnes, or 3 percent, from 1998 to 1999. Increases in copper, zinc, and lead releases occurred at the Hudson Bay Mining and Smelting facility in Flin Flon, due to deterioration of their emission control system, but new emission control equipment was installed in 2000. Inco also experienced an increase in aggregate metal releases.

From 1999 to 2000, releases of B-2 substances dropped by 343 tonnes, or 10 percent. Substantial reductions in releases of methylene chloride from Novopharm's Toronto and Markham plants contributed significantly to this reduction. Large reductions were also noted at Noranda's Horne Smelter and Noranda's Canadian Electrolytic Zinc.

Since the last Environmental Leaders report, reductions of B-2 substances totalled 245 tonnes, or 7 percent below 1998 levels. The total reduction achieved for B-2 substances through ARET is over 7627 tonnes, or 70 percent from base year levels.

List B-3

From 1998 to 1999, releases of List B-3 substances were reduced by 376 tonnes, or 5 percent. Major reductions were achieved by pulp and paper producer Domtar at Espanola and by steel producers Dofasco and Stelco's Hilton Works Division. Large reductions were also recorded by oil and gas producers Imperial Oil and Petro-Canada.

From 1999 to 2000, releases of B-3 group substances were further reduced by 319 tonnes, or over 4 percent. Benzene releases were significantly reduced from Dofasco's Hamilton facility. Shell Canada Limited and Syncrude's Mildred Lake Site reported substantial reductions in hydrogen sulphide releases. The total reductions achieved since the last Environmental Leaders report are 695 tonnes, or 9 percent below 1998 levels.

The overall reduction for B-3 substances over the entire life of the ARET program was 19 344 tonnes, or 73 percent from base year levels. This represents 70 percent of the total tonnage reduction for the entire program.

Reductions by Substance

The ARET short-term reduction targets apply to categories of substances rather than to specific substances. The achievement of short-term targets for individual substances provides participants with a measure of the success of the ARET program. Since the beginning of the program, ARET participants have submitted action plans on 93 substances. This number includes substances such as PAHs that are often reported as a group or family of substances.

For List A-1 substances, the short-term release reduction challenge target was 90 percent by the year 2000. The 90 percent challenge target has been exceeded for 5 of 24 reported List A-1 substances or substance groups:

- hexachlorobenzene
- pentachlorophenol
- octachlorostyrene
- 2,3,7,8-tetrachlorodibenzofuran
- 2,3,7,8-tetrachlorodibenzo-p-dioxin

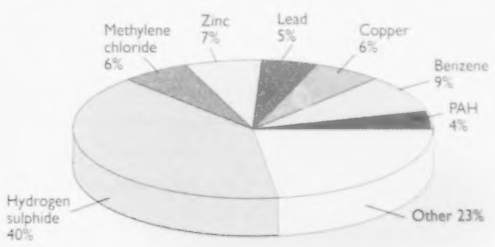
Significant reductions from 1998 to 1999 were reported for a number of substances, including PAHs (A-1 and B-1), cadmium (A-2), lead and methylene chloride (B-2), and hydrogen sulphide, chlorine dioxide, benzene, and methyl isobutyl ketone (B-3). Increases were reported for copper and zinc (B-2) and acetaldehyde (B-3).

Further reductions from 1999 levels in chlorine dioxide, benzene, and methylene chloride were reported for 2000. Substantial reductions were also reported for cyanides and chloroform (B-2). Copper releases were reduced significantly from 1999 levels, but remained slightly above 1998 levels.

For a summary of ARET releases by substance, please see Appendix 3.

In 1999 and 2000, the seven substances with the highest reported releases remained unchanged, with hydrogen sulphide topping the list once again. The releases reported by ARET participants for the seven highest-volume substances for 2000 are shown in Figure 4.

FIGURE 4: Substances with Highest Releases in 2000



Top seven substances represent 77 percent of ARET's total releases for 2000.

Toxic Substances under the Canadian Environmental Protection Act, *1999 (CEPA 1999)*

Participants reported base year emissions of 10 349 tonnes of the 22 substances common to Schedule 1 of CEPA 1999 and the ARET list. This represented 27 percent of the total base year releases reported to ARET. From 1998 to 1999, ARET participants reduced releases of CEPA toxics by 366 tonnes, or 9 percent. In 2000, ARET participants further reduced releases of CEPA toxics by 414 tonnes, or 11 percent. Since 1998, the total reduction has been 780 tonnes, or 20 percent. Through the ARET program, participants have achieved substantial reductions in releases of CEPA toxics, totalling over 7100 tonnes, or 69 percent below base year levels. This impressive reduction fell just short of their year 2000 reduction targets for CEPA toxics on the ARET list. Based on commitments made in the original ARET action plans, participants projected release reductions of 7540 tonnes, or 73 percent from base year, by 2000.

ARET Substances and the Canadian Environmental Protection Act, 1999

A substance is considered toxic under CEPA 1999 if there is potential to cause a harmful effect on the environment or its biological diversity, if it might constitute a danger to the environment on which human life depends, or if it constitutes a danger in Canada to human life or health. Twenty-two ARET substances are identified as toxic in Schedule 1 of CEPA 1999. Four of these are part of the top seven substances reported to ARET (see Figure 4): benzene, lead, methylene chloride (also known as dichloromethane), and PAHs. Other ARET substances on Schedule 1 of CEPA 1999 are 1,2-dichloroethane, 3,3-dichlorobenzidine, inorganic arsenic compounds, asbestos, benzidine, bis(2-ethylhexyl)phthalate, bis(chloromethyl)ether, inorganic cadmium compounds, carbon tetrachloride, hexavalent chromium compounds, hexachloro-benzene, mercury, oxidic, sulphidic, and soluble inorganic nickel compounds, polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans, poly-chlorinated biphenyls (PCBs), tetrachloroethylene, and trichloroethylene.

Sector Progress

Aluminium

Releases from the aluminium sector from the base year to 2000 are illustrated in Figure 5, and releases from this sector by substance for the year 2000 are shown in Figure 6.

The Aluminium Association of Canada **(AAC)** represents the aluminium industry on the ARET Stakeholders' Committee. AAC member companies are responsible for all of the aluminium production in Canada.

Aluminium — Release Changes 1998–2000 (tonnes)

Substance	1998–1999	1999–2000	1998–2000
PAHs	▼27	▼28	▼55
Other	0	0	0
Net change	▼27	▼28	▼55

▼denotes a decrease in releases; ▲ denotes an increase in releases.
Releases have been rounded to the nearest whole number.

In 2000, the Canadian primary aluminium industry produced 2.4 million tonnes of metal, fourth in world production behind the United States, China, and Russia. The value of Canadian production was $5.5 billion in 2000, and the primary aluminium industry provides 14 765 direct jobs in Canada.

Source: http://aac.aluminium.qc.ca/anglais/index.html

All AAC members participated in or supported the program. Two companies have stated that the new technology they use does not emit significant quantities of ARET substances. Alcan is the only AAC member with reported releases, the majority being PAHs from five facilities. The aluminium sector accounted for 3.5 percent of overall reported releases of ARET substances in 2000 and 87 percent of reported releases of List A-1 substances in that year. Reported releases from this sector totalled 380 tonnes.

From 1998 to 1999, the aluminium sector and Alcan in particular reduced ARET releases by 27 tonnes, or 6 percent. From 1999 to 2000, ARET releases were further reduced by 28 tonnes, or 7 percent. Since the Environmental Leaders 3 Update report, the aluminium sector/Alcan has reduced emissions by 55 tonnes, or over 12 percent lower than 1998 levels. This reduction is mainly due to the elimination of PAH releases from the closing of the Isle-Maligne aluminium smelter, which coincided with the opening of a new state-of-the-art smelter in Alma, Quebec. This is an important step as part of Alcan's smelter replacement program, where smelters using older technology are being replaced with new, low PAH-releasing operations. It is important to note that, since the early 1980s, Alcan has reduced its releases of PAHs by over 70 percent, and by up to 85 percent in the Saguenay Region of Quebec.

From the base year of 1988 to 2000, Alcan reduced PAH releases by 58 percent, or 517 tonnes.

FIGURE 5: Aluminium – ARET Releases

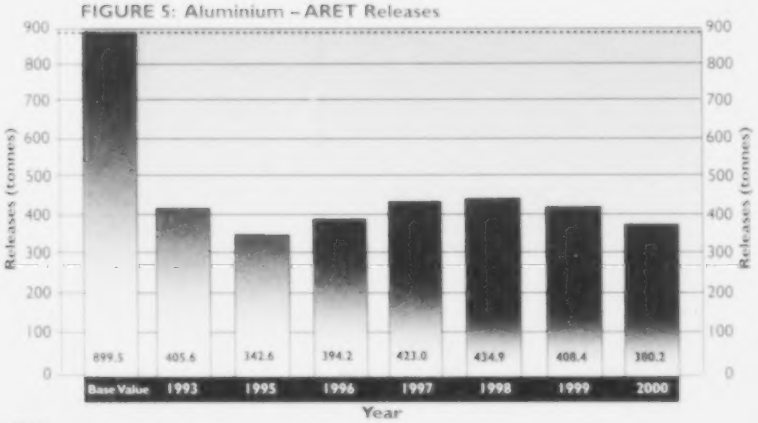
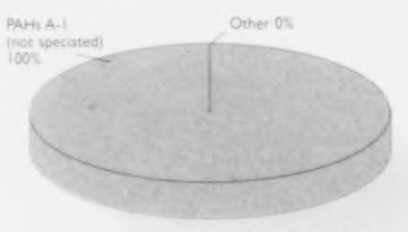


FIGURE 6: Aluminium – Releases by Substance (2000)



Sector Total: 380 tonnes

Alcan Smelting and Chemicals accounts for all reported aluminium sector emissions and reductions.

Chemical Manufacturing

Releases from the chemical manufacturing sector from the base year to 2000 are illustrated in Figure 7, and releases from this sector by substance for the year 2000 are shown in Figure 8.

The Canadian Chemical Producers' Association **(CCPA)** represents the manufacturers of a broad range of petrochemicals, inorganic chemicals, polymers, and organic and specialty chemicals. CCPA member companies produce over 90 percent of the industrial chemicals manufactured in Canada.

Chemical Manufacturing — Release Changes 1998–2000 (tonnes)

Substance	1998–1999	1999–2000	1998–2000
Benzene	▼11	▲55	▲44
Acetaldehyde	▲33	▼5	▲28
1,3-Butadiene	▼10	▲22	▲12
Copper	▼6	▼3	▼9
Other	▼12	▼6	▼18
Net change	▼6	▲63	▲57

▼denotes a decrease in releases. ▲ denotes an increase in releases.
Releases have been rounded to the nearest whole number.

CCPA represents 73 member companies with more than 200 chemical manufacturing sites across Canada, accounting for more than 90 percent of chemical manufacturing operations in Canada. Together, these companies generate revenues of more than $15 billion annually. CCPA member companies directly employ more than 83 000 people and operate sites in over 100 communities across Canada.
Source: http://www.ccpa.ca/english/who/index.html

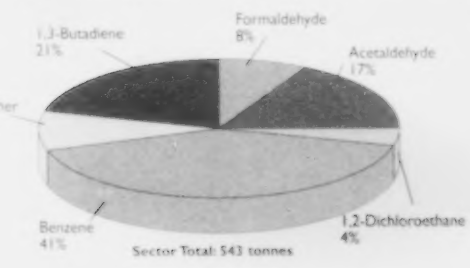
In 1999 and 2000, 52 of 73 CCPA member companies participated in or supported ARET. The chemical sector accounted for 543 tonnes, or 5 percent, of total ARET releases reported for 2000. The CCPA's Responsible Care® verification teams add credibility to the industry's voluntary actions. They confirm that management systems are in place to enable the achievement of results reported to programs such as ARET. The four-person teams, comprising community members, industry representatives, environmentalists, and academics, are wholly independent of the companies being verified. The teams prepare a report on their findings for public, employee, and peer scrutiny.

In 1999, the chemical manufacturing sector slightly decreased its ARET releases by 6 tonnes, or 1.3 percent. In 2000, releases from this sector increased by 63 tonnes, or 13 percent from 1999. The net ARET releases from this sector since the last Environmental Leaders report have increased by 57 tonnes, or 12 percent. This increase was due mainly to process variations and changes in emission calculation at Celanese's Edmonton facility. Significant increases from Nova Chemicals' Corunna facility were caused by unscheduled shutdowns and startups. Significant reductions at Bayer Inc. partially offset the increase.

As of 2000, this sector has reduced its ARET releases by 1848 tonnes, or 77 percent from base year levels.

FIGURE 7: Chemical Manufacturing – ARET Releases

FIGURE 8: Chemical Manufacturing – Emissions by Substance (2000)



Chemical Specialties

Releases from the chemical specialties sector from the base year to 2000 are illustrated in Figure 9, and releases from this sector by substance for the year 2000 are shown in Figure 10.

Chemical Specialties — Release Changes 1998–2000 (tonnes)

Substance	1998–1999	1999–2000	1998–2000
Methyl isobutyl ketone	▼27	▲2	▼25
Other	0	▼3	▼3
Net change	▼27	▼1	▼28

▼denotes a decrease in releases; ▲ denotes an increase in releases.
Releases have been rounded to the nearest whole number.

The chemical specialties sector is a $13.7 billion industry directly employing more than 11 000 people and generating annual exports of over $923 million. Source: http://www.ccspa.org/who/index.html

The Canadian Consumer Specialty Products Association **(CCSPA)**, formerly known as Canadian Manufacturers of Chemical Specialties, represents the chemical specialties manufacturing sector in ARET. CCSPA member companies manufacture, package, and distribute products such as detergents, floor finishes, deodorizers, disinfectants, pesticides, and flame retardant chemicals. Fifteen out of 40 CCSPA member companies participated in or supported ARET.

In 2000, the releases reported from the chemical specialties sector totalled 80 tonnes, less than 1 percent of overall ARET releases. This represents a reduction of 106 tonnes, or 57 percent, from the base year level of 186 tonnes. Due to the nature of this sector, large quantities of ARET substances are generally not emitted to the environment during manufacturing processes. Consequently, facility release reduction opportunities do not exist on the same scale as in other sectors.

For the 1999 reporting year, the chemical specialties sector managed to reduce ARET releases by 27 tonnes, or 25 percent lower than 1998 levels. In 2000, releases were reduced by 1 tonne, or 1 percent lower than 1999 levels. The total reduction from this sector since the previous Environmental Leaders report amounts to 28 tonnes, or 26 percent lower than 1998 levels. This large reduction is due to decreases in methyl isobutyl ketone releases at Crown Cork & Seal's Concord Plants #233 and #244.

FIGURE 9: Chemical Specialties – ARET Releases

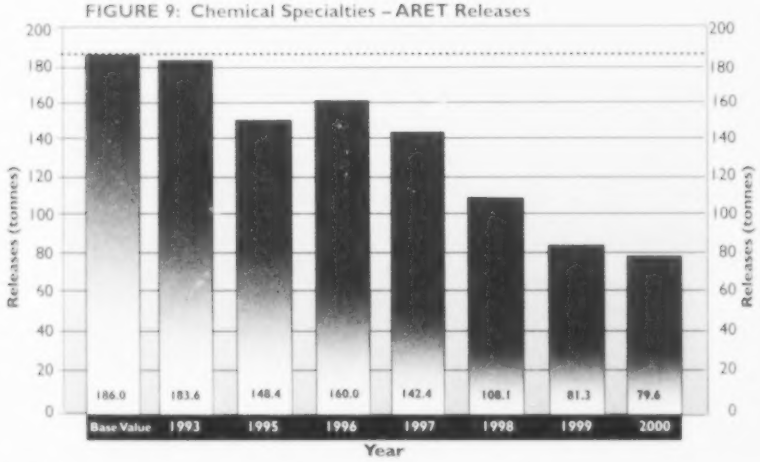
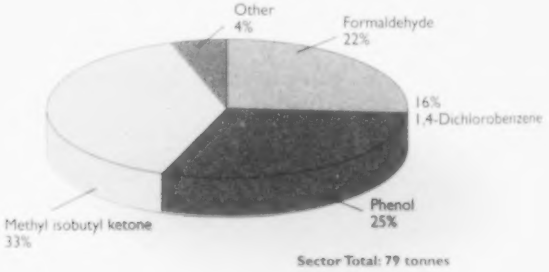


FIGURE 10: Chemical Specialties – Releases by Substance (2000)



Electric Utilities

Releases from the electric utilities sector from the base year to 2000 are illustrated in Figure 11, and releases from this sector by substance for the year 2000 are shown in Figure 12.

The Canadian Electricity Association **(CEA)** represents the Canadian electric utility industry on the ARET Stakeholders Committee. Member companies are responsible for generating, transmitting, and distributing electric power, and they account for about 90 percent of installed generating capacity in Canada.

Electric Utilities — Release Changes 1998–2000 (tonnes)

Substance	1998–1999	1999–2000	1998–2000
Copper	▲1	▲1	▲2
Zinc	0	0	0
Nickel	0	0	0
Other	▼2	▼2	▼4
Net change	▼1	▼1	▼2

▼denotes a decrease in releases; ▲ denotes an increase in releases.
Releases have been rounded to the nearest whole number.

All electric utility members of the CEA with significant generating capacity are participating in or supporting the ARET program.

In 2000, the electric utilities industry generated a total revenue of almost $45 billion and generated exports of over $4 billion. This industry employed 82 000 people directly. Source: Canadian Electricity Association

Releases of ARET substances reported by the electric utilities sector totalled 49 tonnes in 2000, which represent less than 1 percent of overall 2000 ARET releases. Ontario Power Generation was the most significant participant from this sector. In 2000, Ontario Power Generation accounted for 75 percent of the total releases reported for the sector and 91 percent of the sector's total reductions of ARET substances.

From 1998 to 1999, this sector reduced releases by 1.3 tonnes, or 3 percent. From 1999 to 2000, releases were further reduced by 1 tonne, or 2 percent. Total reductions from this sector since the last Environmental Leaders report are 2.3 tonnes, or 4 percent.

Base year releases from companies in this sector totalled 117 tonnes. Reductions reported since the base year are 68 tonnes, or 58 percent.

The highest environmental priorities for electric utilities are the reduction of emissions of greenhouse gases and of the acid rain precursors sulphur dioxide and oxides of nitrogen. ARET provided a venue for reporting progress on industry concerns related to toxic substances, such as releases of polychlorinated biphenyls **(PCBs)** and releases of trace metals to air and water.

PCBs (List A-1) may be found in some electrical equipment such as transformers. They are not released to the environment except in the case of fire, spills, or leaks. Although new electrical equipment has not contained PCBs since the early 1980s, some older equipment may still contain PCB material.

FIGURE 12: Electric Utilities – Releases by Substance (2000)

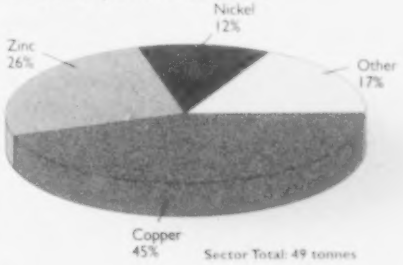
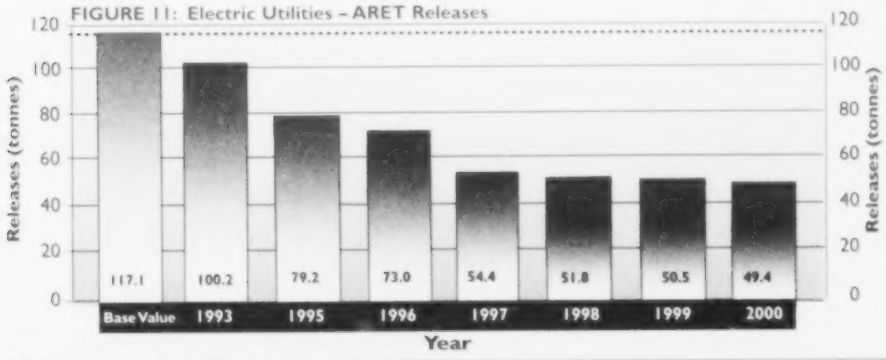


FIGURE 11: Electric Utilities – ARET Releases



Utilities have aggressive programs in place for PCB removal and licensed destruction when PCB-containing equipment is serviced or replaced. For example, Ontario Power Generation facilities shipped 210 tonnes of PCB waste for destruction in 1999 and a further 148 tonnes in 2000. Ontario Power Generation is working towards destroying 81 percent of its 1994 inventory of in-storage PCB waste and high-level in-service PCB equipment by 2005, and the remainder by 2015. Thus, the potential for environmental release of PCBs is continually decreasing as PCB-containing equipment is retired, moved into secure containment facilities, and eventually destroyed.

Government

Four federal departments or agencies (National Defence, Environment Canada, Natural Resources Canada, and the National Capital Commission) have submitted action plans to ARET.

Participants from government are achieving progress under ARET by identifying products in use that contain ARET substances and eliminating or replacing those products.

Five of the nine federal departments or agencies involved in ARET have determined that they have no or negligible ARET substance releases. As a result, Industry Canada, Health Canada, the National Research Council of Canada, Agriculture and Agri-Food Canada, and the Canadian Security Intelligence Service have submitted Declarations of Support for ARET.

Mining and Smelting

Releases from the mining & smelting sector from the base year to 2000 are illustrated in Figure 13, and releases from this sector by substance for the year 2000 are shown in Figure 14.

Mining and Smelting — Release Changes 1998–2000 (tonnes)

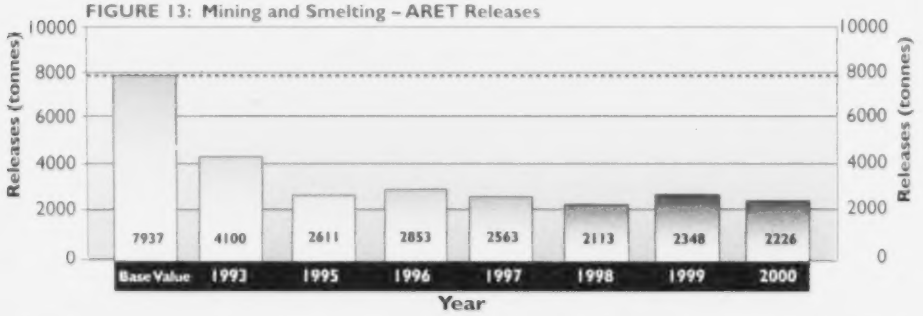
Substance	1998–1999	1999–2000	1998–2000
Copper	▲255	▼125	▲130
Zinc	▲56	▼42	▲14
Lead	▼66	▼4	▼70
Nickel	▼20	▲85	▲65
Arsenic	▲3	▼7	▼4
Cyanides	▲12	▼34	▼22
Other	▼5	▲6	▲1
Net change	▲235	▼121	▲114

▼denotes a decrease in releases; ▲ denotes an increase in releases.
Releases have been rounded to the nearest whole number.

The Mining Association of Canada (**MAC**) represents the mining and smelting sector in the ARET program. This sector includes companies involved in mineral exploration as well as the mining, smelting, and refining of metals such as gold, zinc, copper, lead, and nickel. MAC members account for the majority of Canada's output of metals.

Seventy-nine percent of MAC members participated in ARET. The mining and smelting sector had 14 companies submit action plans, and a further 9 companies support ARET but emit no or negligible amounts of ARET substances.

FIGURE 13: Mining and Smelting – ARET Releases



Since the Environmental Leaders 3 Update report, Kinross Gold has submitted an action plan to ARET. Reported releases from the mining and smelting sector totalled 2226 tonnes, which represented 21 percent of the total ARET releases reported in 2000.

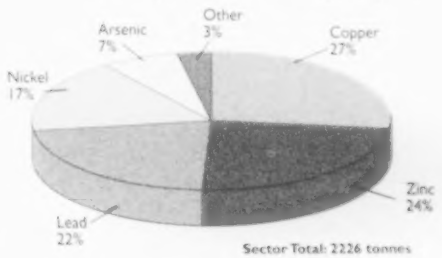
From 1998 to 2000, there was a net increase in releases of 114 tonnes reported from this sector. An increase of 235 tonnes was reported in 1999. This was offset somewhat by a release reduction of 121 tonnes in 2000. The increases noted in 1999 are largely attributable to Inco and Hudson Bay Mining and Smelting. These increases were partially offset by reductions achieved in lead releases at Falconbridge's Kidd metallurgical operation and Noranda's Horne smelter and in copper releases at Noranda's Canadian Electrolytic Zinc.

Under the Strategic Options Process for Base Metal Smelting, MAC and other stakeholders worked with Environment Canada to develop management options for a range of substances declared toxic under CEPA. These substances are also targeted under ARET and include arsenic, cadmium, lead, mercury, and nickel. This work has resulted in a commitment by this sector to reduce releases of these toxic substances by 80 percent, from 1988 levels, by 2008. Although this extends beyond the life of the initial ARET program, the ARET Secretariat will continue to provide a reporting mechanism for companies with reduction targets beyond 2000.

The mining and smelting industry in Canada is a major contributor to the economy. In 2000, the industry produced minerals worth over $19.8 billion, while employing over 401 000 people directly. Production amounted to almost 4 percent of the Canadian gross domestic product, and the industry accounted for over 13 percent of 2000 Canadian exports. Source: Mining Association of Canada

Total program reductions from this sector were 5712 tonnes, or 72 percent from base year levels. Reductions realized by this sector represent over 20 percent of the total reduction achieved in the program.

FIGURE 14: Mining and Smelting – Releases by Substance (2000)



Oil, Gas and Petroleum Products

Releases from the oil, gas, and petroleum products sector from the base year to 2000 are illustrated in Figure 15, and releases from this sector by substance for the year 2000 are shown in Figure 16.

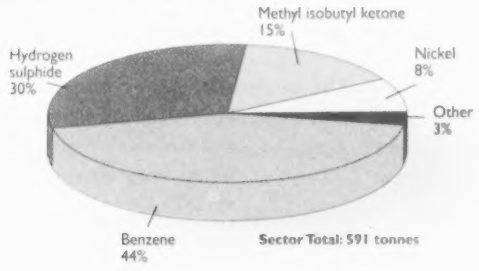
The Canadian Petroleum Products Institute **(CPPI)** represents companies involved in the refining, distribution, and/or marketing of petroleum products, which is referred to as the downstream sector of the oil industry. A number of upstream companies, involved in the extraction of oil and natural gas, participate in ARET, although they are not represented on the ARET Stakeholders Committee.

Seven out of nine members of the CPPI have submitted action plans to ARET. These participants represent a significant amount of CPPI's refining capacity. CPPI members represent 80 percent of Canada's total refining capacity.

Reported ARET releases from the oil, gas, and petroleum sector were 591 tonnes in 2000, which accounted for 6 percent of total ARET releases.

By 1999, the oil, gas, and petroleum products sector had already reached and exceeded its 2000 projection. In 1999, companies from this sector reduced ARET releases by 108 tonnes, or 13 percent below 1998 levels. In 2000, this sector further reduced its ARET releases by 125 tonnes, or 18 percent under 1999 levels. This brings the total reduction since the

FIGURE 16: Oil, Gas and Petroleum Products – Releases by Substance (2000)



Oil, Gas and Petroleum Products — Release Changes 1998–2000 (tonnes)			
Substance	**1998–1999**	**1999–2000**	**1998–2000**
Hydrogen sulphide	▲43	▼130	▼87
Benzene	▼120	▼26	▼146
Methyl isobutyl ketone	▼17	▲16	▼1
Zinc	▼13	▲6	▼7
Other	▼1	▲9	▲8
Net change	▼108	▼125	▼233

▼denotes a decrease in releases; ▲ denotes an increase in releases.
Releases have been rounded to the nearest whole number.

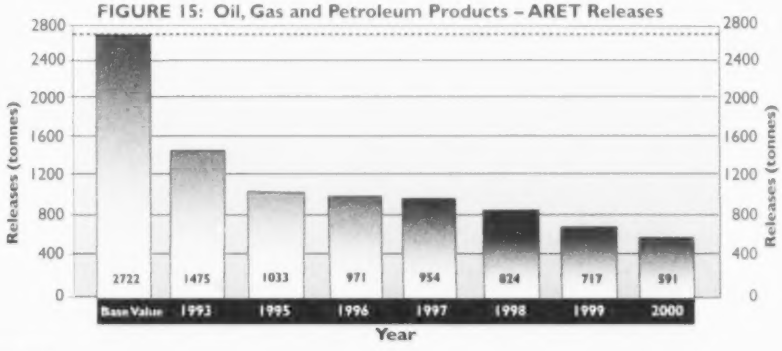
The 19 refineries operating in Canada collectively process about 1.6 million barrels of crude oil each day. Exports of refined petroleum products exceeded 140 million barrels in 2001. This level is nearly twice the amount imported. Directly and indirectly, the downstream sector of the petroleum industry employs approximately 250 000 Canadians. Source: CPPI

Canada is the third largest producer of natural gas and the fourteenth largest producer of crude oil in the world. In 2000, Canada produced 2.2 million barrels of crude oil per day and 17.1 billion cubic feet of natural gas per day. Exports totalled about 1.3 million barrels per day of crude oil and about 3.3 trillion cubic feet per year of natural gas. Canadian exports meet some 15 percent of U.S. natural gas demand. The upstream crude oil and natural gas industry directly employs over 90 000 people. Source: http://www.capp.ca/default.asp?V_DOC_ID=603

Environmental Leaders 3 Update report to 233 tonnes, or 28 percent. Significant benzene reductions from Imperial Oil, Suncor's Oil Sands Group, Petro-Canada, and Shell, as well as hydrogen sulphide release reductions from Syncrude's Mildred Lake operation and Suncor's Oil Sands Group, aided in the large reduction noted from 1998 to 2000.

In 2000, reductions for the sector from base year levels were 2131 tonnes, or 78 percent.

FIGURE 15: Oil, Gas and Petroleum Products – ARET Releases



Other Manufacturing

Releases from manufacturers that do not fall under the other key industrial sectors listed in ARET from the base year to 2000 are illustrated in Figure 17, and releases by substance for the year 2000 are shown in Figure 18.

Manufacturers that do not fall under the other key industrial sectors listed in ARET are represented on the ARET Stakeholders Committee by Canadian Manufacturers and Exporters **(CME)**. CME has approximately 2500 member companies, including manufacturers, service companies, and exporters. Seventy percent of CME members are small to medium-sized enterprises.

Some CME members are not involved in activities that produce or use ARET substances. Many others are too small to make ARET participation practical.

Releases reported by this sector to ARET for 2000 totalled 738 tonnes, which represented 7 percent of the total year 2000 ARET releases. This reflects an 800 tonne, or 52 percent, decrease from base year levels.

The multistakeholder Strategic Options Process **(SOP)** for methylene chloride (also known as dichloromethane) recommended that companies using or emitting this substance commit to

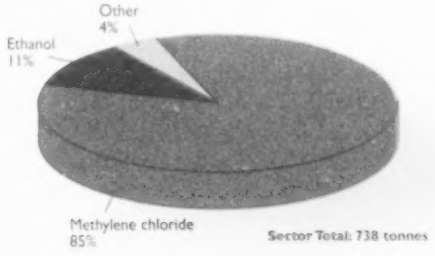
voluntary action to reduce or eliminate their releases. Participation in ARET was recommended as the best way to facilitate these reductions. Since few companies responded within the agreed time frame to join ARET, the Minister of the Environment is proceeding with publishing a requirement for the preparation and implementation of pollution prevention plans. Nevertheless, a number of methylene chloride emitters have responded to the ARET challenge, joined the program, and made substantial reductions. Currently, participants have reported methylene chloride reductions of 418 tonnes, or 40 percent below base year levels, the majority of this reduction (264 tonnes) having occurred in the past 2 years. This sector's target of a 604 tonne, or 58 percent, reduction from base year levels has not yet been met. This was not unexpected, since some of the participants that joined ARET after the methylene chloride SOP process could not commit to reductions by 2000, the date for achievement of the short-term targets set by ARET. This sector is striving to meet its goal of a 58 percent reduction by the year 2003. Although this extends beyond the life of the original ARET program, the ARET Secretariat will continue to collect reduction achievement data for these and other companies that wish to continue with their commitments beyond 2000.

Other Manufacturing — Release Changes 1998–2000 (tonnes)

Substance	1998–1999	1999–2000	1998–2000
Methylene chloride	▼97	▼167	▼264
Ethanol	▲13	▼29	▼16
Other	▲2	▼1	▲1
Net change	▼82	▼197	▼279

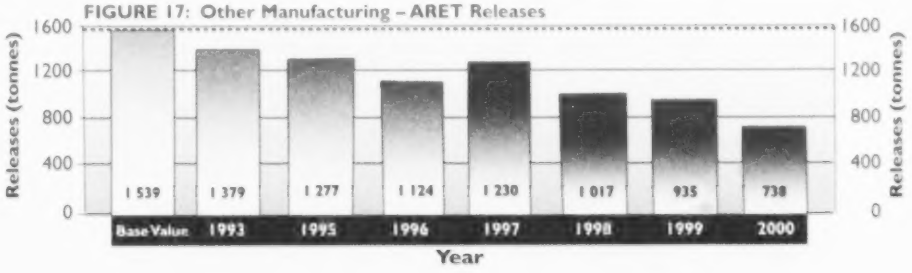
▼denotes a decrease in releases; ▲ denotes an increase in releases.
Releases have been rounded to the nearest whole number.

FIGURE 18: Other Manufacturing – Releases by Substance (2000)



In 1999, participants from this sector reported release reductions of 82 tonnes, or 8 percent below 1998 levels. In 2000, the reduction trend continued, as participating facilities reported reductions of 197 tonnes, or 21 percent lower than 1999 levels. This puts the total reduction from this sector since the last Environmental Leaders report at 279 tonnes, or 27 percent less than 1998 levels.

FIGURE 17: Other Manufacturing – ARET Releases



Forest Products

Releases from the forest products sector from the base year to 2000 are illustrated in Figure 19, and releases from this sector by substance for the year 2000 are shown in Figure 20.

Companies that manufacture forest products are represented on the ARET Stakeholders Committee by the Forest Products Association of Canada **(FPAC)**. This association, formerly known as the Canadian Pulp and Paper Association, has recently expanded its mandate to serve the whole forest products industry. Companies in this sector produce various types of pulp and paper products as well as operate a number of facilities that produce other forest products, such as lumber and building materials.

Of FPAC members, 78 percent participated in or supported ARET. This includes 19 companies with action plans and 5 companies that support ARET but have no or negligible releases of ARET substances. The vast majority of this participation, and of the reductions achieved from this sector, came from pulp and paper facilities, as a much smaller number of wood products facilities participated in the program.

In 2000, the forest products industry had total sales of over $53 billion and represented 12.3 percent of total Canadian exports. The forest products industry directly employed more than 257 000 people. Source: http://www.fpac.ca/english/index.htm

The forest products sector reported releases of 3581 tonnes, or 33 percent of total reported ARET releases in 2000.

Forest Products — Release Changes 1998–2000 (tonnes)

Substance	1998–1999	1999–2000	1998–2000
Hydrogen sulphide	▼48	0	▼48
Chlorine dioxide	▼67	▼82	▼149
Formaldehyde	▲23	▲32	▲55
Chloroform	▼5	▼69	▼74
Other	▲36	▼41	▼5
Net change	▼61	▼160	▼221

▼denotes a decrease in releases; ▲ denotes an increase in releases.
Releases have been rounded to the nearest whole number.

In 1999, participants from this sector reduced ARET releases by 61 tonnes, or 2 percent from 1998 levels. In 2000, ARET releases were further reduced by 160 tonnes, or 4 percent. This brings the total reduction of ARET substances since the Environmental Leaders 3 Update report to 221 tonnes, or 6 percent below 1998 levels.

These significant reductions were mainly due to reduced releases of hydrogen sulphide at Domtar Espanola, St. Anne Nackawic, and Pope & Talbot's Harmac Pulp Operation and of chlorine dioxide at Weldwood's Hinton plant. These were partially offset by increases in hydrogen sulphide releases at Kimberly Clark Nova Scotia and in chlorine dioxide releases at Pope & Talbot's Mackenzie Operation (formerly Fletcher Challenge MacKenzie).

ARET releases from this sector have decreased by 15 042 tonnes, or 81 percent, from base year levels.

FIGURE 19: Forest Products – ARET Releases

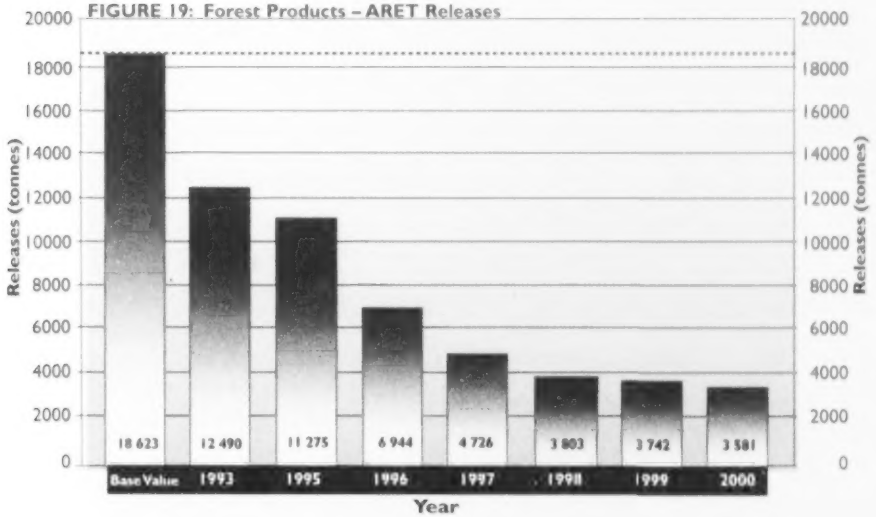
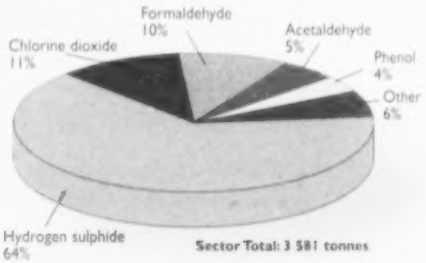


FIGURE 20: Forest Products – Releases by Substance (2000)



Steel

Releases from the steel industry from the base year to 2000 are illustrated in Figure 21, and releases from this sector by substance for the year 2000 are shown in Figure 22.

The Canadian steel industry is represented on the ARET Stakeholders Committee by the Canadian Steel Producers Association **(CSPA)**. The CSPA includes companies that operate integrated steel mills (producing steel from raw materials), electric arc furnaces (recycling scrap steel), and steel processing facilities (rolling, tube making, etc.). CSPA members account for all steel production in Canada.

A total of 9 out of 13 steel companies in the CSPA were involved in ARET. Eight companies implemented action plans, while one company supported the program but emits no or negligible quantities of ARET substances.

The steel sector reported releases of 2569 tonnes, which account for 24 percent of total releases reported to ARET in 2000. In 1999, the steel sector reported a 257 tonne, or 9 percent, reduction from 1998 levels. The trend continued in 2000, as the steel sector further reduced releases by 139 tonnes, or 5 percent below 1999 levels. This brings the total reduction from this sector since the last Environmental Leaders report to 396 tonnes, or 15 percent lower than 1998 levels. These decreases were due to significant reductions in hydrogen sulphide releases from Stelco's Hilton Works and in benzene releases from Dofasco in Hamilton. Since 1998, ARET participants from the steel sector reduced releases of benzene by 242 tonnes and of PAHs by 44 tonnes.

Steel — Release Changes 1998–2000 (tonnes)

Substance	1998–1999	1999–2000	1998–2000
Hydrogen sulphide	▼193	▲101	▼92
Benzene	▼12	▼230	▼242
PAHs	▼27	▼17	▼44
Zinc	▼15	▲9	▼6
Other	▼10	▼2	▼12
Net change	▼257	▼139	▼396

▼denotes a decrease in releases; ▲ denotes an increase in releases.
Releases have been rounded to the nearest whole number.

The total reduction achieved by the steel sector since the base year is 1598 tonnes, or 38 percent.

In 2000, Canadian steel industry sales amounted to over $11 billion and generated more than $3 billion in exports. The steel sector supports more than 115 000 jobs across the country.
Source: http://www.canadiansteel.ca/about/index.html

FIGURE 22: Steel – Releases by Substance (2000)

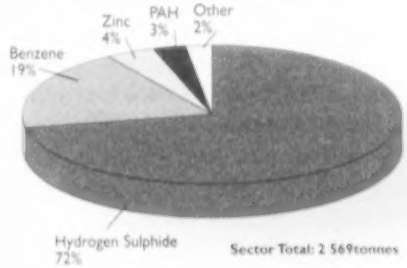
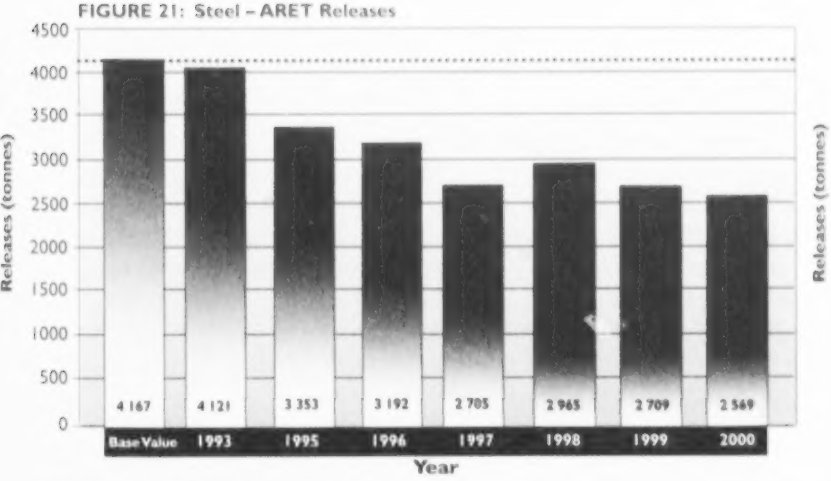


FIGURE 21: Steel – ARET Releases



Concurrent Sector Management Initiatives:
A multistakeholder Strategic Options Process was established by Environment Canada in 1995 to develop management options for a range of substances emitted from the steel sector that are declared toxic under CEPA. Most of these substances are also targeted under ARET, including arsenic, cadmium, lead, mercury, benzene, and PAHs. The resultant Strategic Options Report led to Environment Canada's Environmental Codes of Practice for Integrated Steel Mills, which was developed through a multistakeholder consultative process.

The CSPA issued its Statement of Commitment and Action for Environmental Protection in June 1998, committing members to reduce air releases of benzene and PAHs and to participate in the above-mentioned Environmental Codes of Practice consultation process. The CSPA also developed two Environmental Best Practice Manuals for Coke Producers: one for Controlling and Reducing Emissions of Benzene from Metallurgical Coke Production in the Province of Ontario (December 1999) and the other for Controlling and Reducing Emissions of PAHs from Metallurgical Coke Production in the Province of Ontario (June 2000). Through the development and use of these Environmental Best Practice Manuals and the verification of data by independent third-party auditors, significant reductions in benzene and PAH releases from this sector have been achieved.

ARET Beyond 2000

ARET was the first nationwide, voluntary challenge directed at the broad spectrum of the industrial community. Since its launch in March 1994, ARET has had a positive influence on reducing releases of toxic substances into the Canadian environment. The high level of participation in ARET by key industrial sectors of the Canadian economy, together with their collective achievements in release reductions, has demonstrated that voluntary action on toxic substances can be an effective complement to regulation in enhancing environmental performance.

A review of the ARET program, including a number of midterm critiques of it, and studies of voluntary initiatives elsewhere were undertaken to determine the optimum characteristics for a successor program to ARET. As a result, Environment Canada and some stakeholders, including industry representatives and environmental non-government organizations (ENGOs), indicated the desirability of developing a successor program to ARET.

Context of Renewal of ARET

Background

ARET grew out of a proposal from a prestigious coalition of leading industry executives and environmentalists (the New Directions Group) to the federal Minister of the Environment in late 1991. The Minister responded by launching the ARET Stakeholders Committee in 1992 to evaluate the toxicity of some 2000 substances and forge an agreement on ranking these substances. The committee originally included representatives from industry, health and professional associations, federal and provincial governments, and aboriginal, environmental, and labour groups.

By late 1993, the Committee had finished assessing and categorizing about 2000 substances and recommended 117 substances for immediate action within the ARET program. However, the Committee could not reach a consensus on the issue of eliminating the use of toxic substances as opposed to focusing on reducing releases of toxics. The viability of the voluntary approach to achieve action on toxics was also questioned. Pollution Probe, the Canadian Labour Congress, the Toxics Watch Society of Alberta, the West Coast Environmental Law Association, Great Lakes United, and the Union québécoise pour la conservation de la nature withdrew from the ARET Stakeholders Committee in September 1993. The remaining members chose to continue the ARET process to achieve environmental results.

The ARET challenge was issued in the spring of 1994. Goals for the ARET program were established to the year 2000, as detailed above in this report.

Workshop on Voluntary Approaches to Environmental Management

In September 1997, a workshop sponsored by the Conference Board of Canada, the New Directions Group, and Pollution Probe was convened to explore the best applications and policy support required for effective voluntary or non-regulatory initiatives **(VNRIs)**. The criteria and principles for VNRIs, as developed by the New Directions Group, were well received. There was general agreement on the eight principles.

Criteria and Principles for the Use of Voluntary or Non-Regulatory Initiatives to Achieve Environmental Policy Objectives by the New Directions Group

The New Directions Group, a respected coalition of ENGOs and industry leaders, released their paper entitled as above in November 1997. The paper presented five criteria and eight principles intended to ensure the application and design, respectively, of voluntary initiatives that would achieve environmental objectives and, in their view, engender public trust.

Workshop on the Future of ARET

In December 1997, the ARET Stakeholders Committee agreed to sponsor a one-day workshop to identify and discuss issues, ideas, and actions that must be addressed in developing a path forward for ARET as a voluntary initiative beyond 2000. In attendance were 31 participants representing industry, academic and environmental organizations, and federal and provincial governments. Participants recommended that the federal government develop a policy framework for voluntary initiatives. They also agreed on the need to develop a consultation paper on the identified issues for presentation to the ARET Stakeholder Committee and that all stakeholders, including ENGOs, should be engaged in developing the consultation paper.

Review of ARET by the Commissioner of the Environment and Sustainable Development

In May 1999, the Commissioner of the Environment and Sustainable Development **(CESD)** released a report on the effectiveness of the federal government's toxic substances management programs. The 1999 report noted that voluntary programs were being used as a core element of the federal management strategy to achieve the reduction of toxic substances. It observed that voluntary initiatives could play a role in the management of toxic substances, provided more rigor and better accountability mechanisms were integral program components. Specifically, CESD identified the need for clear goals and targets, standardized performance measures, consequences if objectives are not met, credible verification of results, and continuous improvement. As recommended by CESD, Environment Canada established the conditions under which voluntary initiatives can be used to manage toxics in a policy framework for environmental performance agreements (published in June 2001).

1999 Consultation Paper on the Future of ARET

The ARET Secretariat formalized the renewal process in August 1999 with the release of a consultation paper on the future of the ARET program. It presented options and key issues and principles to be considered when designing the successor program. Issues included increasing participation, evaluating the current ARET substance list, and verifying the data reported by ARET participants.

Comments from 14 industry representatives, 10 government departments and agencies, 5 members of the public, and 4 ENGOs were received on the initial discussion paper. Analysis of comments concluded that ARET's lack of direct impact on the reductions achieved in the program was a reflection of the fact that the program structure provided little support to participants and few rewards for performance. It was acknowledged that voluntary programs that are better resourced seem to be more effective.

Virtually everyone interviewed, including all industry members, indicated their strong support for retaining the ARET program. Most indicated that they would like the program to be strengthened.

Environment Canada's Evaluation of ARET

Environment Canada conducted an internal review of the ARET program, releasing its final report in July 2000. The main focus of the evaluation was to assess the effectiveness of ARET, i.e., the extent to which participation in ARET could be considered as being responsible for the reduction/elimination of releases of toxic substances and whether reduction targets have been met.

The main conclusion of the ARET evaluation report was that ARET's challenge targets were met (except for those substances that are persistent bioaccumulative and toxic) and, in many cases, exceeded. However, the evaluation also found that the ARET initiative was not the most important factor in motivating industry to reduce releases of toxic substances. Other factors, such as regulations, modernization, and business decisions, played a more important role. The evaluation also concluded that ARET raised the profile of toxic substances with industry, helped industry focus its efforts on reducing emissions, and helped improve working relations between industry and government. At the same time, ARET might have strained relations between the government and ENGOs.

The main recommendations from the evaluation report were:

- to have in place a stricter framework when using voluntary programs; and
- to develop an integrated information tool for identifying best opportunities for using voluntary measures for the management of toxic substances.

In response to these recommendations, Environment Canada established a Policy Framework for Environmental Performance Agreements (described below). Subsequently, the elements of the proposed ARET 2 Program, the successor program to ARET, were drafted based upon the criteria and principles from Environment Canada's Policy Framework for Environmental Performance Agreements.

Environment Canada is also considering the feasibility of creating a database to assist in tracking activities and tools used in the risk management of toxic substances. Work has already begun on using a more integrated approach for managing release data and information. For example, the collection of release data for the proposed new ARET 2 program will be facilitated through the use of the National Pollutant Release Inventory **(NPRI)** reporting software. Here, program results would be reported publicly by the ARET Secretariat.

Consultations on the Design of a Successor to ARET

To develop a prototype successor program for discussion purposes with Canadian industry leaders and ENGOs, comments on the 1999 Consultation Paper were considered, along with the designs of a number of European and North American programs.

An advisory group of industry, ENGO, and provincial representatives was convened to discuss and improve upon the prototype design for the successor program. The initial meeting of the advisory group was held on December 14, 2000. The advisory group suggested changes, and the design was modified. Departmental officials convened subsequent meetings with this advisory group on February 7, April 12, and May 16 of 2001 to review the successive designs and invite further improvements. A total of 19 industry, 5 ENGO, and 2 provincial representatives participated in these focus group sessions.

Successor to ARET Workshop, June 15, 2001

Environment Canada convened a workshop to address design issues identified through advisory group consultations, with a focus on the specific issues of targets and timelines, accountability, and a possible second tier for the program. Agreement was apparent on the objectives and design of the program, the need for simplicity, the need for flexibility, allowing the program to evolve, the need for transparency, and improving and effectively communicating the business case for participation. The need for a track permitting the participation of small and medium-sized enterprises was also identified.

Successor to ARET Workshop, November 27, 2001

An ARET Stakeholders Committee meeting was held on November 27, 2001, to get feedback on the design of the successor program and obtain advice on the development of a multistakeholder advisory body for the program. The workshop resulted in some final "fine-tuning" of a few design elements, a clear path forward on the structure and mandate of an Advisory Committee for the new program, agreement that the new program name should include "ARET," and the value of requesting and publishing participant achievement stories highlighting the successes and technology progress precipitated by the ARET program.

Policy Framework for Environmental Performance Agreements (June 2001)

Environmental agreements are part of the suite of environmental protection tools used by Environment Canada, along with regulations, guidelines, codes of practice, economic instruments, challenge programs like ARET, and educational campaigns. Key elements of an environmental performance agreement include a credible process and design criteria that assure effective delivery of results. A goal of this policy is to ensure that non-legislative agreements achieve the equivalent result of regulations, where, in fact, this is the intent of the agreement. To fulfil this objective, the policy contains eight criteria that must be negotiated before Environment Canada will sign a non-legislative environmental performance agreement.

These design criteria include:

- senior-level commitment from participants;
- clear environmental objectives and measurable results;
- clearly defined roles and responsibilities;
- consultation with affected and interested stakeholders;
- public reporting;
- verification of results;
- incentives and consequences; and
- continuous improvement.

These criteria are also included in the design of the successor to ARET.

The Successor to ARET

The ARET Secretariat has been working with industry, non-government organizations, other government departments, and the public to develop a successor program that incorporates the recommendations made by the New Directions Group, recommendations made in the 1999 CESD review, and comments made on the department's Consultation Paper on the Future of ARET in the evaluation of the program (see above) to create a voluntary or non-regulatory initiative that is effective and credible.

Appendix I ARET SUBSTANCES

ARET SUBSTANCES LIST

Following is the ARET list of substances for action. These substances were selected from a list of chemicals detected in the Canadian environment. There is evidence that these substances 1) may have the potential to have harmful effects on human, animal, or plant life; 2) may tend to degrade very slowly in the environment; and/or 3) may tend to accumulate in living organisms.

This listing was meant to guide priorities, and is not meant to imply that actual harm is currently being caused by these substances. The ARET substances have been rank-ordered based on their intrinsic properties. Decisions concerning priority for action were made by the managers of participating facilities.

A Substance Selection Subcommittee report detailing the selection process, guidelines, and criteria is available on the Internet at www.ec.gc.ca/aret and from the ARET Secretariat.

The substances have been categorized by chemical grouping and are accompanied by Chemical Abstracts Service Registry Number (CASRN) for ease of use with WHMIS (Workplace Hazardous Materials Information System) and NPRI (National Pollutant Release Inventory) data management systems.

SUBSTANCE SELECTION

Substances were selected for screening from the CESARS (Chemical Evaluation Search and Retrieval System) database maintained by the Ontario Ministry of Environment and Energy and the Michigan Department of Natural Resources. This database contains information on approximately 2000 substances that have been used or detected in the Great Lakes Basin. There was sufficient information on 500 of the substances to permit screening for the ARET list.

In developing its substances list, the ARET Stakeholders Committee received advice and recommendations from two technical subcommittees. The Criteria Subcommittee proposed criteria and a process for screening and selecting candidate substances for action. The group's proposals were approved by the ARET Stakeholders Committee in February 1993. The Substance Selection Subcommittee applied the process to select candidates, and provided its recommended list in the fall of 1993. The final list of substances was approved by the ARET Stakeholders Committee in January 1994.

Both subcommittees included representatives from the labour and environmental communities, industry, and provincial and federal government departments. Subcommittee participants had expertise in environmental toxicology and hazardous substances.

The criteria used for screening substances were toxicity, persistence, and bioaccumulation. Substances were selected on the basis of their intrinsic properties only; no consideration was given to quantities released, the medium of release, or quantities in the environment. As a consequence, no inference can be made about their relative risk. In addition, the grouping of substances into lists is not meant to imply that all substances within a list are of equal priority, since each list represents a broad range of scores for the criteria.

SELECTION CRITERIA

Substances were considered to be persistent if they failed to degrade in the environment to half their concentration within 50 days. Substances were considered to be bioaccumulative if test evidence demonstrated a bioconcentration factor (BCF) greater than 500.

For toxicity, up to 6 elements were considered in the scoring process, all with maximum scores of 10: acute lethality, chronic/sub-chronic toxicity (non-mammals), chronic/sub-chronic toxicity (plants), chronic/sub-chronic toxicity (mammals), teratogenicity, and carcinogenicity. Where three or more toxicity scores were available for a substance, a normalized toxicity score (NTS) was calculated, with a maximum of 60. All substances with NTS over 40 were considered toxic for the ARET list. In addition, any substance with a score of 10 on any toxicity element was considered toxic for ARET.

PESTICIDES EXCLUDED FROM ARET

The list provided by the Substance Selection Subcommittee included a number of registered pesticides. The ARET stakeholders decided that, since pesticides are regulated under the *Pest Control Products Act*, it was in general not appropriate to include pesticides on the ARET list. Where substances had both pesticide and non-pesticide uses or releases, they remained on the ARET list.

Metals Treated Differently

Metals, by virtue of their elemental nature, were all considered as persistent for the purposes of the screening. Although the intent was to screen individual chemicals, this was not always possible, and for some metals a composite score based on the scores for various metal species resulted in a worst-case scoring. Future actions or assessment should focus on specific metal compounds.

LIST A-1

(meet or exceed criteria for toxicity, bioaccumulation, and persistence)

ARET's vision for substances on this list is the virtual elimination of emissions into the environment from human activities. The short-term goal is for a 90 per-cent reduction in emissions by 2000.

	CASRN
Polycyclic Aromatic Hydrocarbons (PAHs) as a group. (The following specific PAHs met or exceeded the criteria for List A-1.)	
Benz(a)anthracene	56-55-3
Benzo(a)pyrene	50-32-8
Benzo(e)pyrene	192-97-2
Benzo(b)fluoranthene	205-99-2
Benzo(j)fluoranthene	205-82-3
Benzo(k)fluoranthene	207-08-9
Benzo(g,h,i)perylene	191-24-2
Chrysene	218-01-9
Dibenz(a,h)anthracene	53-70-3
Dibenzo(a,i)pyrene	189-55-9
Dibenz(a,j)acridine	224-42-0
7H-Dibenzo(c,g)carbazole	194-59-2
Fluoranthene	206-44-0
Indeno(1,2,3-c,d)pyrene	193-39-5
Perylene	198-55-0
Phenanthrene	85-01-8
Pyrene	129-00-0
Nitro-PAHs	
1,6-Dinitropyrene	42397-64-8
1,8-Dinitropyrene	42397-65-9
Chlorinated organics	
Polychlorinated Biphenyls (PCBs)	N/A
Hexachlorobenzene	118-74-1
alpha-Hexachlorocyclohexane	319-84-6
gamma-Hexachlorocyclohexane	58-89-9
4,4-Methylenebis(2-chloroaniline)	101-14-4
Octachlorostyrene	29082-74-4
Pentachlorophenol	87-86-5
2,3,7,8-Tetrachlorodibenzofuran	51207-31-9
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6
Metal compounds	
*Methyl mercury	22967-92-6
Tributyltin	688-73-3

* For prevention/control actions, mercury should be addressed (see List B-2).

LIST A-2

(consensus could not be reached on whether these substances meet all criteria)

ARET's goal for substances on this list is for the reduction of emissions to levels that are insufficient to cause harm. The short-term goal is for "best effort" reduction in emissions.

	CASRN
* 1,4 Dichlorobenzene	106-46-7
**Cadmium compounds (inhalable & soluble inorganic forms)	

*The toxicity criterion was met for possible carcinogenicity by accepting IARC (International Agency for Research on Cancer) classification of "possible human carcinogen."

**The selection process was unable to take into account specific metal compounds, and therefore scores for metals were based on a composite score for several metal species. For cadmium, actions may be tailored to such compounds as $CdCO_3$, $CdCO_2$, CdC_{12}, CdO, and $CdSO_4$. The concept of virtual elimination of discharges for metals is under discussion and was not resolved by ARET.

LIST B

For the List B substances, the vision is reduction of emissions to levels that are insufficient to cause harm. The short-term goal is a 50-per-cent reduction by 2000.

LIST B-1

(meet or exceed criteria for toxicity and bioaccumulation)

	CASRN
PAHs	
Anthracene	120-12-7
7,12-Dimethylbenz(a)anthracene	57-97-6
Dimethylnaphthalene	28804-88-8
Chlorinated organics	
3,3 Dichlorobenzidine	91-94-1
Hexachlorocyclopentadiene	77-47-4
2,4,6-Trichlorophenol	88-06-2
Other	
Bis(2-ethylhexyl)phthalate	117-81-7
*Tetraethyl lead	78-00-2

*Degrades to lead, which is persistent (see List B-2)

LIST B-2

(meet or exceed persistence and toxicity criteria)

	CASRN
PAHs	
Benzo(a)fluorene	238-84-6
Benzo(b)fluorene	30777-19-6
Dibenz(a,h)acridine	226-36-8
Chlorinated organics	
alpha-Chlorotoluene	100-44-7
Bbis(2-chloroethyl)ether	111-44-4
Bromodichloromethane	75-27-4
Carbon tetrachloride	56-23-5
Chlorodibromomethane	124-48-1
Chloroform	67-66-3
1,2 Dichloroethane	107-06-2
Methylene chloride	75-09-2
1,1,2,2-Tetrachloroethylene	127-18-4
2,3,4,6-Tetrachlorophenol	58-90-2
Metal compounds	
Arsenic (inorganic)	N/A*
Asbestos	1332-21-4
Beryllium	7440-41-7
Chromium (Cr6+)	N/A*
Cobalt (soluble or inorganic)	N/A*
Copper (inorganic salts)	N/A*
**Lead (all forms except alkyl)	N/A*
***Mercury (elemental and inorganic)	N/A*
Nickel (inorganic, inhalable or soluble)	N/A*
Silver (soluble inorganic or ionic)	N/A*
Uranium (inorganic, inhalable or soluble)	N/A*
Zinc (inorganic, inhalable or soluble)	N/A*
Other	
o-Anisidine	90-04-0
Cyanides	57-12-5
4,6 Dinitro-o-cresol	534-52-1
1,4 Dioxane	123-91-1
Ethylene oxide	75-21-8
2-Naphthylamine	91-59-8
2-Nitropropane	79-46-9
Thiourea	62-56-6

LIST B-3

(meet or exceed toxicity criterion)

	CASRN
Chlorinated organics	
Bis(chloromethyl) ether	542-88-1
Epichlorohydrin	106-89-8
1-Bromo-2-chloroethane	107-04-0
1-Chloro-4-nitrobenzene	100-00-5
1,2-Dibromo-3-chloropropane	96-12-8
1,2-Dichlorobut-3-ene	760-23-6
2,4-Dichlorophenol	120-83-2
1,3 Dichloropropene	542-75-6
1,1,2-Trichloroethylene	79-01-6
Aromatics	
4-Aminoazobenzene	60-09-3
4-Aminobiphenyl	92-67-1
Aniline	62-53-3
Benzene	71-43-2
Benzidine	92-87-5
Dimethylphenol (mixed isomers)	1300-71-6
2,6 Dimethylphenol	576-26-1
2,4 Dinitrotoluene	121-14-2
2,6 Dinitrotoluene	606-20-2
1,2 Ddiphenylhydrazine	122-66-7
2-Methylpyridine	109-06-8
Phenol	108-95-2
Toluene diisocyanates	26471-62-5
Nitrosamines	
N-Nitrosodimethylamine	62-75-9
N-Nitrosodiphenylamine	86-30-6
N-Nitroso-di-n-propylamine	621-64-7
Other	
Acetaldehyde	75-07-0
Acetamide	60-35-5
Acrolein	107-02-8
Acrylamide	79-06-1
Acrylonitrile	107-13-1
1,3 Butadiene	106-99-0
Chlorine dioxide	10049-04-4
n-Dodecane	112-40-3
Ethanol	64-17-5
Ethylene dibromide	106-93-4
Ethylene thiourea	96-45-7
Formaldehyde	50-00-0
Hydrazine	302-01-2
Hydrogen sulphide	7783-06-4
Methyl isobutyl ketone	108-10-1
4-Nitrosomorpholine	59-89-2
Quinoline	91-22-5
Tetramethylthiuram disulphide	137-26-8
Vinyl bromide	593-60-2

*CASRN not applicable. The selection process was unable to take into account specific metal compounds, and therefore scores for metals were based on a composite score for several metal species.
** See also tetraethyl lead on List B-1.
*** See also methyl mercury on List A-1.

Appendix 2 RELEASES BY FACILITY

aRET Accelerated Reduction/Elimination of Toxics

COMPANY NAME	FACILITY NAME	Cat.	Releases (All values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	Reduction From Base Year	Reduction Since EL1 Update
3m	London Facility	B-3	8.47	8.47	4.11	3.96	8.07	8.20	8.15	3.85	53.03%	54.56%
	Perth Plants	B-3	65.98	65.98	67.01	76.40	42.58	37.55	37.07	36.05	4.00%	45.36%
Abitibi-Consolidated Inc.	Alma Division	A-1	0.13	0.13	nd	nd	nd	nd	nd	nd	na	100.00%
		B-2	6.58	6.58	2.04	1.26	1.94	2.03	3.60	3.60	-77.34%	45.29%
		B-3	0.61	0.61	0.41	0.39	0.38	6.60E-02	0.11	0.11	-60.61%	82.62%
	Beaupré Paper Mill	A-1	1.10E-03	1.10E-03	1.10E-03	na	na	na	na	na	na	na
		B-2	2.50	2.50	2.50	1.42	1.93	1.03	1.56	1.56	-51.46%	37.60%
		B-3	0.10	9.70E-02	9.70E-02	na	na	na	na	na	na	na
	Belgo Division	B-3	216.14	216.04	145.04	3.02	nd	nd	nd	nd	na	100.00%
	Fort Frances Division	A-1	7.09E-06	nm	nm	nm	nm	nm	nm	nm	na	100.00%
		B-1	9.90E-02	nm	nm	nm	nm	nm	nm	nm	na	100.00%
		B-2	12.21	5.71	6.98	1.06	1.07	0.59	0.93	1.12	-88.72%	90.82%
		B-3	114.70	20.70	25.20	25.96	31.90	17.50	13.33	13.33	23.86%	88.38%
	Fort William Division	A-1	8.68E-07	8.68E-07	8.68E-07	8.68E-07	8.68E-07	nd	nd	nd	na	100.00%
		A-2	1.47E-03	1.47E-03	1.47E-03	1.47E-03	1.47E-03	2.21E-03	2.21E-03	2.21E-03	0.00%	-50.00%
		B-2	0.89	0.89	0.82	0.82	0.82	0.33	0.33	0.33	0.00%	63.48%
		B-3	4.30	4.30	9.40E-04	9.40E-04	9.40E-04	6.04E-04	3.50E-04	3.50E-04	42.05%	99.99%
	Iroquois Falls Division	A-1	5.90E-07	2.97E-10	nm	nd	nm	nd	nd	nd	na	100.00%
		B-2	0.96	1.10	0.42	0.23	0.15	8.80E-02	8.00E-02	5.70E-02	35.23%	94.06%
		B-3	7.70E-02	9.70E-02	4.10E-02	nd	5.00E-04	6.00E-04	6.00E-04	nd	100.00%	100.00%
	Kenogami Paper Mill	A-1	2.40E-03	2.40E-03	2.40E-03	2.40E-03	2.40E-03	2.40E-03	2.40E-03	1.29E-03	46.25%	46.25%
		B-2	7.50	7.50	4.70	4.70	4.70	4.70	4.70	2.78	40.85%	62.93%
		B-3	0.50	0.50	0.15	0.15	0.15	1.50E-02	1.50E-02	4.10E-02	-173.33%	91.80%
	Kenora Division	A-2	1.00E-03	1.00E-03	nd	nd	nm	nm	nd	nd	na	100.00%
		B-2	1.82	1.82	4.69	3.62	0.39	0.22	0.12	0.13	40.25%	92.68%
		B-3	2.20E-02	2.20E-02	4.70E-02	nm	1.20E-03	9.59E-04	3.24E-02	4.94E-02	-5049.84%	-124.49%
	La Compagnie Gaspésia Ltd. (SOLD)	B-2	5.65	5.65	0.69	0.69	1.86	8.00E-03	8.00E-03	8.00E-03	0.00%	99.86%
		B-3	0.88	0.88	0.88	0.88	2.50E-02	0.00	0.00	0.00	na	100.00%
	Laurentide Division	B-3	128.96	117.36	117.36	4.12	15.69	9.16	9.37	9.37	-2.29%	92.73%
	Port Alfred Division	B-3	59.86	59.86	34.90	14.80	13.30	10.60	10.10	10.10	4.72%	83.13%
	Wayagamack Division (SOLD)	A-1	2.49E-02	1.37E-02	6.60E-03	6.80E-03	1.23E-02	nd	nd	nd	na	100.00%
		B-1	2.80E-02	nd	nd	2.70E-02	3.13E-02	nd	nd	nd	na	100.00%
		B-2	7.16	5.08	5.08	2.80E-02	3.00E-02	nd	nd	nd	na	100.00%
		B-3	307.90	154.40	155.90	136.90	91.40	17.80	9.10	9.10	48.88%	97.04%
Advanced Fence & Wire Manufacturing Co. Ltd.	Frost Fence & Wire Products Ltd.	B-2	0.10	0.10	0.20	0.16	0.16	0.16	0.16	0.16	0.00%	-59.92%
		B-3	0.12	0.12	8.00E-02	7.00E-02	7.00E-02	7.00E-02	7.00E-02	7.00E-02	0.00%	43.09%
Advanced Monobloc, A Division of CCL Industries	Advanced Monobloc Aerosol Division	B-2	146.80	146.80	109.38	87.24	4.29	na	na	na	na	100.00%
Air Canada	Aircraft Paint Stripping Operations	B-2	33.96	33.96	33.96	33.96	28.00	28.20	16.90	33.80	-19.86%	0.47%
Alcan Primary Metal Group	Arvida Aluminum Smelter	A-1	466.20	180.00	146.00	184.60	191.00	208.40	206.00	208.00	0.19%	55.38%
		B-2	1.80	0.50	0.50	0.50	0.37	0.29	0.22	0.20	31.03%	88.89%
	Beauharnois Aluminum Smelter	A-1	110.20	50.00	43.00	50.00	53.00	45.70	53.00	46.00	-0.66%	58.26%
	Isle-Maligne Aluminum Smelter (CLOSED)	A-1	150.10	80.00	75.00	77.00	80.60	82.00	52.00	7.00	91.46%	95.34%
	Shawinigan Aluminum Smelter	A-1	170.20	95.00	78.00	82.00	98.00	98.50	97.10	119.00	-20.81%	30.08%
	Vaudreuil Chemical Works	A-1	0.57	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.90E-02	2.00E-02	-100.00%	96.49%
		B-2	0.40	7.50E-02	7.50E-02	8.80E-02	4.90E-02	2.20E-02	2.00E-02	2.20E-02	0.00%	94.50%

na — not available, **nd** — non-detectable, **nm** — non-measurable, **no** — facility not in operation. **(Note):** Negative percentages denote an increase in reported releases.

COMPANY NAME	FACILITY NAME	Cat.	Releases (All values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	Reduction From Base Year	Reduction Since EL3 Upadte
Algoma Steel Inc.	Steelworks	A-1	84.10	84.10	14.32	16.46	18.36	11.55	10.66	10.56	8.60%	87.45%
		B-1	1.63	1.63	1.63	3.12	3.49	2.19	2.03	2.01	8.22%	-23.39%
		B-2	31.33	31.33	16.88	13.96	8.62	10.27	5.66	6.58	36.00%	79.01%
		B-3	338.50	336.40	169.11	165.55	168.33	178.32	179.15	185.86	-4.23%	45.09%
Ashland Canada Inc.	Manufacturing and Distribution Divisions	B-1	7.30E-02	7.30E-02	7.30E-02	7.30E-02	7.00E-02	6.80E-02	0.00	0.00	100.00%	100.00%
		B-2	0.92	0.92	0.92	1.05	0.72	0.51	0.21	0.20	60.71%	78.17%
		B-3	0.41	0.20	0.19	0.18	0.57	0.52	0.39	0.42	20.04%	-2.47%
Atlas Specialty Steels, Division of Atlas Steels Inc.	Welland Factory	B-2	15.16	6.72	1.10	1.61	1.40	0.66	0.99	1.17	-77.71%	92.30%
		B-3	2.50E-02	na	na	na	2.50E-02	1.30E-02	1.00E-02	1.00E-02	23.08%	60.00%
	Tracy Facility	B-2	28.53	28.53	11.67	1.11	0.72	0.68	0.66	0.66	2.94%	97.69%
		B-3	66.00	33.00	20.60	22.17	22.89	20.09	19.88	19.88	1.05%	69.88%
Aur Resources	Louvicourt Mine	A-2	1.00E-02	no	no	1.00E-02	2.00E-02	nd	nd	nd	na	100.00%
		B-2	0.50	no	no	0.50	0.32	0.35	0.35	0.33	6.29%	34.14%
Barrick Gold Corporation	Holt McDermott & Bousquet Mines	B-2	8.13	0.97	0.75	0.95	0.63	0.24	0.28	0.15	39.67%	98.21%
Basell Canada Inc.	Montell Polyolefins	B-2	0.42	0.14	0.19	0.11	5.20E-02	2.60E-02	4.00E-02	0.00	100.00%	100.00%
		B-3	1.30E-02	na	na	na	na	na	1.30E-02	2.56E-02	na	-96.92%
BASF Canada Limited	Brantford (CLOSED)	B-2	1.00E-03	1.00E-03	1.00E-03	0.00	0.00	0.00	0.00	no	na	100.00%
		B-3	1.64	1.64	1.73	1.64	0.20	7.40E-02	0.00	no	100.00%	100.00%
	Sarnia (CLOSED)	B-3	2.10	2.10	0.05	0.00	0.00	0.00	0.00	no	na	100.00%
	Toronto	B-3	0.41	0.41	1.80E-02	2.20E-02	1.20E-02	0.00	6.00E-02	6.00E-02	na	85.22%
	Windsor	B-3	3.92	3.92	0.95	1.85	0.77	0.60	0.44	0.56	6.67%	85.71%
Bayer Inc.	Sarnia Site	B-2	2.55	2.55	1.57	1.03	0.40	0.40	0.30	0.33	16.37%	86.98%
		B-3	551.00	551.00	360.50	161.60	83.20	70.10	67.00	46.49	33.68%	91.56%
Benjamin Moore & Co., Limited	Montreal Facility	B-2	1.55	1.55	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-3	1.82E-02	1.82E-02	0.50	0.50	0.50	0.50	0.50	0.50	0.00%	-2651.03%
	Toronto Facility	B-2	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.00%	0.00%
		B-3	3.64E-02	3.64E-02	3.64E-02	3.64E-02	3.64E-02	3.64E-02	3.64E-02	3.64E-02	0.00%	0.00%
	Vancouver Facility	B-2	1.11E-02	1.11E-02	1.11E-02	1.11E-02	1.11E-02	1.11E-02	1.11E-02	no	100.00%	100.00%
		B-3	1.82E-02	1.82E-02	1.82E-02	1.82E-02	1.82E-02	1.82E-02	1.82E-02	no	100.00%	100.00%
BHP Billiton Metals Canada Inc. (Formerly Billiton Metals Canada Inc.)	Elliot Lake, Rio Kemptville Tin and Poirier Mines (formerly Rio Algom Ltd. Facilities)	B-2	15.59	15.31	16.25	16.27	15.30	8.41	12.23	6.33	24.75%	59.39%
	Selbaie Mines	B-2	19.17	2.53	3.51	2.28	1.97	3.33	3.08	2.16	35.14%	88.73%
Boliden Westmin (Canada) Limited	Myra Falls Operation	A-2	1.30E-02	1.30E-02	1.00E-02	2.00E-03	1.80E-03	2.60E-03	2.60E-03	2.60E-03	0.00%	80.00%
		B-2	4.05	1.83	2.40	0.66	0.84	0.65	0.65	0.65	0.00%	84.06%
	Premier Gold Operation	A-2	1.50E-03	1.50E-03	9.00E-04	1.20E-03	nd	7.00E-03	7.00E-03	7.00E-03	0.00%	-366.67%
		B-2	1.43	1.43	0.21	0.27	0.14	0.65	0.65	0.65	0.00%	54.44%

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Appendix 2 RELEASES BY FACILITY.

aRET Accelerated Reduction/Elimination of Toxics

COMPANY NAME	FACILITY NAME	Cat.	Releases (All values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	Reduction From Base Year	Reduction Since EL3 Update
Bowater Pulp and Paper Canada Inc.	Bowater Mersey Paper Company Ltd.	A-2	1.50E-02	1.50E-02	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-2	3.29	3.29	3.17	2.90	3.36	3.43	2.98	0.02	99.42%	99.39%
		B-3	16.93	16.93	12.28	16.75	16.66	16.62	15.32	14.70	11.53%	13.18%
	Dalhousie Operations	A-1	1.77E-03	na	na	na	na	1.77E-03	1.77E-03	2.00E-03	-12.99%	-12.99%
		B-3	8.90	na	na	na	na	na	8.90	9.20	na	-3.37%
	Gatineau Operations	A-1	2.57E-07	na	na	2.57E-07	na	na	6.14E-08	2.11E-12	na	100.00%
		B-3	0.19	nd	nd	0.19	na	na	na	na	na	na
	Gold River Operations (CLOSED)	B-2	7.90	na	na	7.90	na	na	no	no	na	100.00%
		B-3	268.00	85.80	113.50	134.80	126.50	126.50	no	no	100.00%	100.00%
	Thunder Bay Operations	A-1	0.13	0.13	0.16	0.17	0.15	0.16	0.17	0.18	-12.18%	-37.34%
		B-1	0.49	na	na	nd	nd	nd	nd	nd	na	100.00%
		B-2	62.41	4.76	4.86	4.27	3.74	4.00	4.25	4.40	-10.00%	92.95%
		B-3	124.69	124.39	157.26	157.71	150.53	152.20	152.64	167.93	-10.33%	-34.68%
Bridgestone/Firestone Canada Inc.	Joliette Plant	A-2	0.28	0.28	0.10	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-3	0.80	0.80	0.25	0.00	1.18	6.80	19.70	21.30	-213.24%	-2562.50%
Cambior Inc.	Bouchard-Hebert Mine (SOLD to Breakwater Resources)	B-2	0.17	0.10	6.37E-02	8.90E-02	0.35	0.18	0.25	0.00	100.00%	100.00%
	Doyon Mine	B-2	7.20E-02	na	na	na	na	7.20E-02	0.17	0.18	-150.00%	-150.00%
	Geant Dormant Mine	B-2	0.37	3.50E-02	9.90E-03	0.35	0.24	0.23	1.10E-02	0.56	-142.17%	-50.13%
	Gonzague-Langlois Mine	B-2	0.55	0.50	1.25E-02	2.00E-03	0.15	0.14	0.22	0.00	100.00%	100.00%
	Mouska Mine	B-2	3.00E-02	na	na	na	3.00E-02	3.00E-02	2.80E-02	3.00E-02	0.00%	0.00%
	Yvan Vezina Plant (CLOSED)	B-2	7.22E-02	8.00E-03	1.08E-02	2.00E-02	7.90E-02	4.10E-02	0.00	no	100.00%	100.00%
Canada Colors & Chemicals Limited	Brampton	B-1	1.00E-03	1.00E-03	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-2	9.00E-03	9.00E-03	9.00E-03	2.00E-03	3.00E-03	3.00E-03	3.00E-03	2.00E-03	33.33%	77.78%
		B-3	0.26	0.26	0.13	0.14	0.12	0.12	0.12	0.10	12.07%	60.62%
	Colborne	B-1	1.00E-03	1.00E-03	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
	Montreal	B-1	1.00E-03	1.00E-03	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-2	1.10E-02	1.10E-02	1.10E-02	1.02	0.65	0.47	0.47	0.41	12.15%	-3645.45%
		B-3	5.50E-02	5.50E-02	4.30E-02	4.50E-02	4.90E-02	3.83E-02	3.83E-02	3.10E-02	19.06%	43.64%
	Vancouver	B-3	1.00E-03	1.00E-03	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
Canadian Forest Products Ltd.	Howe Sound Pulp & Paper Ltd.	A-1	0.26	nd	nd	2.40E-07	7.80E-08	7.20E-08	nd	nd	100.00%	100.00%
		B-1	0.20	nd	nd	nd	nd	nd	nd	nd	na	100.00%
		B-2	7.27	2.20	2.20	2.20	2.30	2.20	2.63	2.63	-19.55%	63.81%
		B-3	80.30	3.65	3.65	5.53	5.39	5.70	9.75	9.75	-71.05%	87.86%
	Prince George Pulp & Paper Mills	A-1	6.00E-02	1.50E-02	3.30E-07	9.30E-07	9.00E-07	6.20E-07	3.10E-07	6.30E-07	-1.61%	100.00%
		B-1	0.23	5.00E-02	nd	nd	nd	nd	nd	nd	na	100.00%
		B-2	9.00E-02	2.00E-02	2.00E-02	nd	nd	nd	nd	nd	na	100.00%
		B-3	438.00	94.90	94.90	13.70	19.40	16.10	13.40	16.10	0.00%	96.32%
Cariboo Pulp and Paper Company	Quesnel Kraft Pulp Mill	B-1	0.28	nd	nd	nd	nd	nd	nd	nd	na	100.00%
		B-2	0.36	7.00E-02	7.00E-02	nd	nd	nd	nd	nd	na	100.00%
		B-3	64.69	47.89	60.00	50.40	33.70	33.40	31.90	27.84	16.65%	56.96%
Cascades Cabano Inc.	Cascades Cabano Papers	A-1	2.00E-03	2.00E-03	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
Casco Impregnated Papers, Inc.	Cobourg Plant	B-3	3.70	3.70	3.70	6.45	5.71	4.63	26.90	26.90	-480.99%	-627.03%
Celanese Canada Inc.	Celanese Canada Inc. - Edmonton Plant	B-3	245.00	115.90	140.90	148.60	108.00	87.00	137.00	186.00	-113.79%	24.08%
	Millhaven Site (SOLD in 1999)	B-2	7.26	6.10	7.00	5.60	2.90	1.30	1.30	no	100.00%	100.00%
		B-3	40.50	43.60	32.00	39.00	32.90	24.20	19.00	no	100.00%	100.00%
Chinook Group Limited	Sombra Plant	A-1	4.80E-09	4.80E-09	9.13E-12	8.81E-12	3.34E-11	7.36E-10	1.80E-11	0.00	100.00%	100.00%
		B-2	9.40E-02	9.40E-02	9.40E-02	1.69	3.99	4.29	7.59	7.10	-65.50%	-2453.19%
		B-3	8.62E-05	8.62E-05	4.10E-05	2.90E-05	2.75E-05	6.50E-05	3.50E-05	1.25E-04	-92.31%	-45.01%

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COMPANY NAME	FACILITY NAME	Cat.	Releases (All values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	Reduction From Base Year	Reduction Since EL3 Upadte
Co-Steel Lasco	Whitby Steel Mini-Mill	A-2	4.00E-02	4.00E-02	3.20E-02	2.60E-02	2.10E-02	2.00E-02	2.00E-02	2.00E-02	0.00%	50.00%
		B-2	28.96	28.96	13.48	11.78	13.58	13.34	13.34	13.34	0.00%	53.96%
Crompton Company/cie	Elmira Manufacturing Facility (Formerly a Uniroyal Facility)	B-3	1.52	1.48	1.48	2.37	1.41	1.00	1.00	2.93	-194.27%	-93.14%
	Upton Road Plant (Formerly a Witco Facility)	B-2	7.20E-03	7.20E-03	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
	West Hill Plant	B-3	5.10E-03	5.10E-03	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
Crown Cork & Seal Canada Inc.	Plant 233 (Concord)	B-3	45.81	45.81	34.10	33.71	37.39	31.88	15.98	17.80	44.16%	61.14%
	Plant 234 (Montreal)	B-3	0.26	0.26	0.41	0.37	0.29	0.39	0.12	0.15	61.04%	42.31%
	Plant 244 (Concord)	B-3	4.28	4.28	0.83	2.97	6.30	18.66	8.30	8.04	56.93%	-87.83%
	Plant 246 (St.Laurent)	B-2	8.00E-03	8.00E-03	2.00E-03	1.70E-03	2.00E-03	2.00E-03	2.00E-03	3.00E-03	-50.00%	62.50%
		B-3	2.00E-01	2.00E-01	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
	Plant 250 (Winnipeg)	B-2	1.70E-02	1.70E-02	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-3	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
	Plant 257 (Chatham)	B-3	1.12		0.27	3.80E-02	0.11	0.15	0.10	0.10	33.77%	91.08%
Cytec Canada Inc.	Cytec Canada Inc.	B-3	3.70E-02	3.70E-02	4.90E-02	5.40E-02	5.20E-02	5.20E-02	9.00E-03	4.00E-03	92.31%	89.19%
DaimlerChrysler Canada Inc.	Assembly,Trim,Casting & Distribution Plants	A-2	0.36	0.36	0.30	0.14	5.00E-02	0.00	0.00	0.00	na	100.00%
		B-2	0.58	0.58	0.22	0.42	0.74	1.15	1.49	1.06	7.59%	-84.03%
		B-3	114.60	114.60	79.80	44.00	160.80	63.10	63.40	33.50	46.91%	70.77%
Delmar Inc.	Lasalle Plant	B-2	33.01	33.00	28.70	28.70	37.30	1.50	0.41	0.41	72.49%	98.75%
		B-3	0.41	0.40	3.00	3.00	1.60	0.11	1.65E-02	1.65E-02	84.72%	96.00%
Dofasco Incorporated	Hamilton Operation	A-1	68.52	59.02	59.02	58.66	56.39	57.11	35.81	21.98	61.51%	67.92%
		A-2	0.62	0.41	0.32	0.30	3.00E-02	4.50E-02	2.30E-02	2.00E-02	55.56%	96.78%
		B-1	31.37	27.05	26.91	26.76	25.66	26.01	16.25	9.94	61.79%	68.31%
		B-2	74.46	33.17	31.37	25.71	20.59	21.57	14.55	16.76	22.32%	77.49%
		B-3	1397.69	1536.05	1288.13	1232.48	745.08	661.29	593.84	477.14	27.85%	65.86%
Domtar Inc.	Cornwall Facility	A-1	3.00	3.00	3.04	2.89	0.69	0.69	0.69	0.46	32.55%	84.58%
		A-2	6.70E-02		6.70E-02	6.30E-02	6.20E-02	6.20E-02	6.20E-02	8.50E-02	-37.10%	-26.87%
		B-1	2.12E-01	0.00	2.70E-02	2.00E-02	2.00E-02	2.00E-02	2.00E-02	0.00	100.00%	100.00%
		B-2	46.95	16.75	1.50	5.95	4.59	4.59	4.59	7.01	-52.66%	85.06%
		B-3	189.68	187.25	160.40	157.32	160.02	1.60E+02	160.02	119.12	25.56%	37.20%
	Domtar Vancouver Mills	B-1	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	1.00E-05	0.00%	0.00%
		B-2	0.64	0.64	0.64	0.66	0.66	0.66	0.66	0.66	0.00%	-1.71%
		B-3	1.66	1.66	1.66	1.66	1.66	1.66	1.66	1.66	0.00%	0.00%
	Espanola Division, Eddy Specialty Papers	A-1	0.13	0.13	0.13	0.11	0.11	0.11	0.11	0.11	0.00%	12.98%
		A-2	0.05	0.05	5.10E-02	5.42E-02	0.28	0.30	0.29	0.29	2.83%	-460.77%
		B-1	0.16	0.16	2.30E-02	nd	nd	nd	nd	0.00	na	100.00%
		B-2	80.91	80.48	50.27	30.74	30.92	19.36	24.03	21.57	-11.41%	73.34%
		B-3	175.20	175.20	170.31	178.35	172.04	168.22	97.60	106.27	36.83%	39.34%
	Lebel-sur-Quevillon Facility	A-1	5.80E-02	4.20E-02	5.46E-02	1.01	9.00E-03	9.00E-03	9.00E-03	1.90E-02	-111.11%	67.25%
		B-1	0.40	0.17	2.45E-02	4.40E-02	0.00	0.00	0.00	nd	na	100.00%
		B-2	71.55	33.46	32.91	17.01	11.14	11.14	11.14	9.77	12.27%	86.34%
		B-3	1374.06	1373.89	1370.93	230.36	132.13	132.13	132.13	139.05	-5.24%	89.88%

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Appendix 2 RELEASES BY FACILITY

aRET Accelerated Reduction/Elimination of Toxics

COMPANY NAME	FACILITY NAME	Cat.	Releases (All values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	Reduction From Base Year	Reduction Since ELI Update
	Ottawa/Hull Plant	A-1	6.01E-03	6.01E-03	6.01E-03	6.01E-03	6.01E-03	4.10E-04	1.31E-03	3.20E-04	21.95%	94.68%
		A-2	7.70E-02	7.70E-02	7.70E-02	7.70E-02	7.70E-02	nd	nd	nd	na	100.00%
		B-1	1.00E-03	1.00E-03	1.00E-03	nd	nd	nd	nd	nd	na	100.00%
		B-2	0.52	0.52	0.52	0.88	0.53	0.45	1.61	0.47	-4.70%	10.45%
		B-3	1.01	1.01	1.01	1.01	1.01	0.51	0.51	0.50	0.99%	50.35%
	St. Catharines Facility	A-1	2.00E-04	2.00E-04	2.00E-04	2.00E-04	2.00E-04	2.00E-04	2.00E-04	2.00E-04	0.00%	0.00%
		B-2	9.40E-02	9.40E-02	0.10	3.95E-02	3.95E-02	3.95E-02	3.95E-02	3.95E-02	0.00%	57.99%
		B-3	1.40E-02	1.40E-02	5.00E-04	0.00	0.00	0.00	0.00	0.00	na	100.00%
	Windsor Facility	A-1	5.89E-02	5.89E-02	6.07E-02	0.14	0.11	0.11	0.11	8.40E-02	20.68%	-42.56%
		B-1	1.02E-01	3.30E-02	2.25E-02	8.50E-03	4.20E-03	4.20E-03	4.20E-03	0.00	100.00%	100.00%
		B-2	16.87	11.47	2.19	3.34	3.75	3.75	3.75	25.38	-576.72%	-50.41%
		B-3	713.70	713.70	1238.60	154.49	46.73	46.73	46.73	88.48	-89.36%	87.60%
Donohue Forest Products Inc.	St-Felicien Pulp	A-1	4.56E-03	4.56E-03	6.57E-09	6.57E-09	3.60E-09	3.40E-09	7.70E-09	2.00E-09	41.18%	100.00%
		B-2	6.52	6.52	2.90	2.90	3.95	4.49	3.17	5.24	-16.70%	19.57%
		B-3	0.22	0.22	nd	nd	nd	nd	nd	nd	na	100.00%
Dow Chemical Canada Inc.	Fort Saskatchewan Site	A-1	1.70E-06	1.70E-06	1.70E-06	1.70E-06	1.70E-06	5.00E-07	5.00E-07	2.00E-08	96.00%	98.82%
		A-2	3.00E-03	3.00E-03	0.00	0.00	0.00	0.00	2.00E-03	0.00	na	100.00%
		B-1	3.00E-03	na	na	na	3.00E-03	1.00E-03	0.00	0.00	na	100.00%
		B-2	60.56	17.55	11.45	24.81	25.75	39.72	33.89	25.11	36.79%	58.54%
		B-3	31.77	32.06	37.85	25.23	13.45	21.79	6.61	8.97	58.86%	71.78%
	Sarnia Site - Dow	A-1	2.10E-03	1.90E-09	1.00E-03	0.00	0.00	0.00	0.00	0.00	na	100.00%
		A-2	0.11	0.00	2.00E-03	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-1	0.14	0.15	3.30E-02	5.20E-02	0.00	0.00	0.00	0.00	100.00%	100.00%
		B-2	89.56	18.70	2.30	1.04	0.66	3.27	2.01	2.34	28.37%	97.39%
		B-3	110.49	41.02	48.13	36.40	18.72	11.41	0.38	0.24	97.90%	99.78%
	Varennes Site	B-3	24.53	12.65	0.11	0.11	0.28	1.91	1.54	4.00E-02	97.91%	99.84%
	West Coast Distribution Centre	B-2	1.90	1.90	1.90	2.36	2.35	2.38	2.77	2.47	-3.78%	-30.00%
Dupont Canada Inc.	Ajax Manufacturing Operation	B-3	2.48	2.48	1.28	1.40	1.38	1.03	1.03	1.30	-26.21%	47.58%
	Maitland Manufacturing Operation	B-2	9.95	5.66	6.85	6.68	8.62	7.49	4.01	4.14	44.73%	58.39%
		B-3	0.88	0.88	0.95	1.28	0.96	1.30	0.87	0.93	28.52%	-5.68%
Durez Canada	Durez Canada	B-3	2.12	1.68	3.12	3.25	3.69	3.77	3.77	0.16	95.87%	92.63%
Dynea Canada Ltd.	Ste-Thérèse Facility (Formerly a Neste Resins Canada Facility)	B-3	110.52	17.30	13.64	13.79	13.96	13.68	13.52	15.25	-11.47%	86.20%
Echo Bay Mines Ltd.	Lupin Operation	B-2	0.83	0.31	0.37	0.44	0.88	2.52E-02	2.52E-02	1.10	4259.92%	-32.41%
Eka Chemical Canada Inc.	Magog Site	B-2	1.02E-02	2.77E-03	1.31E-03	1.35E-03	1.53E-03	1.21E-03	nd	nd	100.00%	100.00%
	Valleyfield Site	B-2	3.70E-03	1.71E-03	2.00E-04	7.40E-04	3.50E-04	1.00E-04	1.00E-04	1.00E-04	0.00%	97.30%
Elastocraft Ltd.	Foam Manufacturing Operation	B-2	98.00	98.00	98.00	98.00	98.00	98.00	98.00	98.00	0.00%	0.00%
Ethyl Canada Inc.	Corunna Production Facility	B-1	14.57	8.60	5.00E-03	5.00E-03	5.00E-03	5.00E-03	5.00E-03	4.00E-03	20.00%	99.97%
		B-2	14.40	6.64	6.60E-02	9.10E-02	5.40E-02	5.00E-02	4.50E-02	0.32	-544.00%	97.76%
		B-3	2.09	3.02	1.00E-02	1.00E-02	6.00E-03	6.00E-03	6.00E-03	4.04E-02	-573.33%	98.07%

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COMPANY NAME	FACILITY NAME	Cat.	Releases (All values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	Reduction From Base Year	Reduction Since EL3 Upadte
F. F. Soucy Inc.	F. F. Soucy Plant	B-2	11.44	11.44	11.44	1.94	2.55	2.36	2.85	2.79	-17.98%	75.65%
		B-3	5.10E-02	5.10E-02	3.40E-02	5.00E-03	9.00E-03	5.00E-03	1.11	1.14	-2276000%	-2141.18%
Falconbridge Limited	Kidd Metallurgical Division	A-2	1.77	1.25	0.90	0.79	0.75	0.63	0.60	0.75	-19.05%	57.63%
		B-2	256.90	240.32	221.70	190.02	163.96	178.02	132.91	143.93	19.15%	43.97%
	Kidd Mining Division	A-2	6.00E-02	6.00E-02	4.00E-02	4.00E-02	2.00E-02	2.00E-02	2.00E-02	1.00E-02	50.00%	83.33%
		B-2	5.30	2.54	2.76	6.26	3.15	3.00	3.57	1.30	56.67%	75.47%
	Raglan Project	A-2	7.00E-04	no	no	no	no	7.00E-04	1.20E-03	7.00E-03	-900.00%	-900.00%
		B-2	0.27	no	no	no	no	0.25	0.47	0.55	-117.63%	-106.42%
	Sudbury Operations	A-2	2.70	3.98	3.54	2.77	3.79	2.75	2.60	1.54	43.89%	42.85%
		B-2	151.59	51.95	42.38	42.27	46.86	44.48	31.61	21.88	50.82%	85.57%
		B-3	29.50	29.50	29.50	29.50	24.58	5.20	5.20	20.10	-286.54%	31.86%
Flying Colours Corp.	Aircraft Refurbishing Operation	B-2	4.66	4.66	4.66	4.66	13.12	13.12	13.12	13.12	0.00%	-181.59%
Gates Canada Limited	Belt Processing Plant	B-1	2.16E-02	2.16E-02	2.16E-02	2.50E-02	3.20E-02	3.20E-02	1.00E-03	1.00E-03	96.88%	95.37%
		B-2	3.00E-03	3.00E-03	3.00E-03	4.00E-03	7.00E-03	7.00E-03	3.00E-01	3.08E-01	-4300.00%	-10166.67%
	Hose Processing Plant	B-1	1.82E-02	1.82E-02	1.82E-02	7.30E-02	1.03E-01	1.03E-01	2.10E-02	0.00	100.00%	100.00%
		B-2	2.36E-01	2.36E-01	2.36E-01	6.10E-02	3.70E-02	3.70E-02	1.10E-02	0.00	100.00%	100.00%
		B-3	0.00	0.00	0.00	0.00	1.80E-03	1.80E-03	0.00	0.00	100.00%	na
General Electric Canada Inc.	GE Industrial Control Systems	B-3	45.00	3.00	5.76	5.76	4.62	2.42	2.40	2.96	-22.31%	93.42%
	GE Lighting	B-2	7.00E-02	7.00E-02	7.00E-02	7.00E-02	6.00E-02	6.00E-02	6.00E-02	6.00E-02	0.00%	14.29%
		B-3	18.44	18.44	18.10	19.14	22.70	22.70	22.70	22.70	0.00%	-23.10%
	GE Meters	B-3	10.20	10.20	9.00	1.50	0.00	0.00	0.00	0.00	na	100.00%
	GE Plastics Canada	B-2	0.60	0.60	0.50	0.60	0.50	0.50	0.50	0.50	0.00%	16.67%
		B-3	2.79	2.79	1.01	0.96	1.03	1.17	1.17	1.17	0.00%	58.02%
	Nuclear Products Dept.	B-2	1.99	1.99	1.99	2.00	1.18E-02	1.18E-02	5.07E-02	5.07E-02	-328.06%	97.45%
Genfast Manufacturing Co.	Fastener Manufacturing Plant	B-2	1.72E-02	1.59E-02	1.40E-02	5.90E-02	5.90E-02	5.90E-02	5.90E-02	5.90E-02	0.00%	-242.23%
		B-3	2.12E-03	2.12E-03	1.80E-03	0.00	0.00	0.00	0.00	0.00	na	100.00%
Gerdau Courtice Steel Inc.	Cambridge Steel Mini-mill	A-2	9.00E-03	9.00E-03	9.00E-03	2.20E-02	2.20E-02	2.20E-02	3.00E-03	3.00E-03	86.36%	66.67%
		B-2	7.69	7.63	7.63	10.26	10.26	10.26	1.32	1.32	87.11%	82.79%
Gerdau MRM Steel	Selkirk Steel Mini-mill	A-2	1.80E-04	nm	nm	nm	nm	1.80E-04	1.02E-02	1.07E-02	-5816.67%	-5816.67%
		B-2	16.12	16.07	18.53	18.53	19.12	9.58	6.13	6.27	34.49%	61.07%
H.L. Blachford Ltd.	H.L. Blachford Ltd.	A-2	0.11	0.11	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-2	0.55	0.55	0.00	0.12	0.10	0.10	7.00E-02	7.80E-02	18.75%	85.70%
Hercules Canada Inc.	Hercules Canada Inc.	B-3	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
Highland Valley Copper	Highland Valley Copper	B-3	1.66	na	na	na	na	1.66	1.66	1.00	39.76%	39.76%
Homestake Canada Inc.	Ontario and BC Mines	A-2	6.50E-04	no	no	6.50E-04	5.73E-03	6.99E-03	1.28E-02	1.70E-02	-143.20%	-2515.38%
		B-2	20.19	1.10	1.31	0.57	1.88	1.27	1.10	1.16	8.59%	94.26%
Hudson Bay Mining & Smelting Company Ltd.	Flin Flon Smelter Complex	A-2	57.59	66.79	5.97	14.43	34.70	26.78	26.22	21.32	20.39%	62.99%
		B-2	1979.38	1595.53	164.56	405.01	678.13	368.72	574.10	496.11	-34.55%	74.94%

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Appendix 2 RELEASES BY FACILITY

aRET Accelerated Reduction/Elimination of Toxics

COMPANY NAME	FACILITY NAME	Cat.	Releases (All values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	Reduction From Base Year	Reduction Since EL3 Update
Huntsman Corporation Canada Inc.	Guelph Plant	B-2	37.50	37.40	2.50	2.53	3.00	3.70	0.48	0.36	90.16%	99.03%
		B-3	1.60	1.60	1.60	1.40	0.20	0.20	0.17	0.15	27.00%	90.88%
Hydro Agri Canada	Hydro Agri Maitland	B-2	4.80E-02	4.80E-02	4.80E-02	4.60E-02	4.60E-02	3.60E-02	3.60E-02	3.60E-02	0.00%	25.00%
Hydro Québec	All Hydro Québec Operations	A-1	0.38	0.38	0.36	0.25	0.27	0.27	0.27	0.27	0.00%	27.89%
		A-2	3.90E-02	3.90E-02	3.40E-02	2.90E-02	3.30E-02	3.30E-02	3.30E-02	3.30E-02	0.00%	15.38%
		B-2	7.52	7.52	5.14	3.22	4.37	4.37	4.37	4.37	0.00%	41.89%
		B-3	2.24	2.24	0.50	0.00	0.79	0.79	0.79	0.79	0.00%	64.78%
IBM Canada Ltd.	Bromont Technology Plant	B-2	104.64	30.64	10.37	8.26	3.89	4.38	4.97	2.80	36.14%	97.33%
ICI Canada Inc.	Cornwall Chemicals Ltd. (CLOSED)	B-2	33.80	38.00	8.74	no	no	no	no	no	na	100.00%
		B-3	1.51	2.66	0.00	no	no	no	no	no	na	100.00%
	ICI Explosives, Brownsburg	B-2	4.40	6.70	6.00	6.00	6.00	6.00	6.00	6.00	0.00%	-36.36%
	ICI Forest Products (CLOSED)	B-2	0.12	6.50E-02	3.20E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	0.00%	91.53%
Imperial Oil Limited	Manufacturing and Oil production and Refining Operations	B-2	9.23	9.23	6.23	19.84	21.15	23.99	27.03	32.84	-36.89%	-255.80%
		B-3	500.30	435.40	288.00	272.70	233.90	187.40	184.90	195.40	4.27%	60.98%
Inco Limited	Copper Cliff and Thompson	B-2	2006.00	853.00	882.00	683.00	596.00	710.40	794.80	902.10	26.98%	55.03%
INMET Mining Corporation	Winston Lake Mine	B-2	0.18	0.16	0.11	7.90E-02	1.56E-01	6.40E-02	1.20E-01	1.20E-01	87.50%	32.20%
Irving Pulp & Paper, Ltd.	Irving Pulp & Paper and Irving Tissue	B-3	71.05	71.05	70.96	69.11	74.15	67.20	76.43	69.76	3.81%	1.81%
Ivaco Rolling Mills Limited Partnership	Rod Mill and Melt Shop	B-2	20.97	12.49	11.34	7.01	5.81	5.81	5.81	5.81	0.00%	72.32%
		B-3	6.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
Kimberly-Clark Corporation	Kimberly-Clark Nova Scotia	A-1	1.04E-05	5.20E-07	nd	nd	nd	nd	nd	nd	na	100.00%
		B-1	0.20	na	4.00E-03	4.00E-03	4.00E-03	0.00	0.00	0.00	na	100.00%
		B-2	19.33	na	0.19	3.45	2.74	0.22	0.20	0.20	9.09%	98.97%
		B-3	774.36	280.91	282.96	118.32	113.67	59.40	180.38	180.38	-203.67%	76.71%
	Terrace Bay Pulp	A-1	5.10E-06	3.05E-06	4.28E-07	3.40E-07	nd	nd	nd	nd	na	100.00%
		B-2	43.67	43.67	43.67	21.84	22.59	8.24	0.02	0.01	99.90%	99.98%
		B-3	26.98	26.98	26.98	34.88	34.55	24.26	38.11	23.05	4.99%	14.57%
Kinross Gold Corporation	Macassa Mine	B-2	0.18	0.18	0.33	0.27	0.51	0.87	0.24	0.40	53.94%	-127.48%
Kodak Canada Inc.	Kodak Canada Inc.	A-2	1.00E-03	1.00E-03	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-2	0.30	0.25	0.25	0.35	0.29	0.22	0.21	0.11	51.36%	64.33%
Kronos Canada, Inc.	Kronos Canada, Inc.	B-2	4.90	1.90	1.10	0.50	0.90	0.20	0.20	nd	100.00%	100.00%
Kruger Inc.	Corner Brook Pulp & Paper Ltd.	B-3	4.47	4.47	4.47	4.47	nd	nd	nd	nd	na	100.00%
	Kruger Inc. & Kruger PTR Inc.	B-3	8.90E-02	8.90E-02	nd	nd	nd	nd	nd	nd	na	100.00%
	Kruger Inc. & Kruger Urban Forest Products	B-3	1.40E-02	1.40E-02	nd	nd	nd	nd	nd	nd	na	100.00%
Lubrizol Canada Limited	Niagara Falls	B-3	0.42	2.30E-02	1.00E-03	4.00E-03	4.00E-03	1.00E-03	0.00	0.00	100.00%	100.00%

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Marathon Pulp Inc.	Marathon Pulp Mill (Formerly a Fort-James Marathon Inc. Facility)	A-1	0.15	0.15	0.15	nd	nd	nd	nd	nd	na	100.00%
		A-2	2.52E-02	2.52E-02	2.52E-02	nd	nd	nd	nd	nd	na	100.00%
		B-2	22.50	3.98	3.97	3.53E-03	4.33E-03	3.21E-03	3.21E-03	0.62	-9366.96%	97.22%
		B-3	1524.65	31.45	31.57	31.38	136.38	81.10	81.10	86.40	-6.54%	94.33%
Methanex Corporation	Kitimat Methanol Plant	B-3	0.10	0.10	0.10	0.00	0.00	0.00	0.00	0.00	na	100.00%
	Medicine Hat Methanol Plant	B-2	0.80	0.40	0.50	0.56	0.21	0.21	0.13	0.11	48.54%	86.75%
		B-3	1.90	1.90	1.70	0.68	0.13	1.50E-02	3.00E-02	3.00E-02	-100.00%	98.42%
Michelin North America (Canada) Inc.	Bridgewater Facility	A-2	0.40	0.40	0.20	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-1	6.70E-02	6.70E-02	6.70E-02	2.00E-02	2.00E-02	2.00E-02	2.00E-02	2.00E-02	0.00%	70.15%
		B-2	0.33	0.33	0.25	0.12	0.11	0.11	0.24	0.24	-112.50%	26.77%
		B-3	2.28	2.28	2.28	1.35	1.55	1.52	1.54	1.54	-1.45%	32.40%
	Granton Facility	A-2	0.41	0.41	0.41	1.00E-02	5.00E-03	0.00	0.00	0.00	na	100.00%
		B-1	6.70E-02	6.70E-02	6.70E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	0.00%	85.07%
		B-2	1.59	1.59	0.43	7.60E-02	9.00E-02	6.20E-01	6.00E-02	6.00E-02	3.23%	96.24%
		B-3	15.35	15.35	15.35	5.10	2.21	3.01	2.80	2.80	7.04%	81.78%
	Waterville Facility	A-2	4.10E-02	4.10E-02	4.10E-02	1.00E-02	0.00	0.00	0.00	0.00	na	100.00%
		B-1	1.00E-02	1.00E-02	1.00E-02	1.10E-02	1.00E-02	1.00E-02	1.10E-02	1.10E-02	-10.00%	-10.00%
		B-2	0.29	0.29	0.29	3.30E-02	4.00E-02	3.60E-02	3.30E-02	3.30E-02	8.33%	88.78%
		B-3	1.25	1.25	1.25	0.25	1.06	1.05	1.11	1.11	-5.93%	11.15%
Nacan Products Limited	Boucherville Plant	B-2	5.00E-02	5.00E-02	4.80E-02	4.70E-02	5.80E-02	4.70E-02	4.70E-02	2.10E-02	55.32%	58.00%
		B-3	2.00E-02	8.00E-03	2.80E-02	6.90E-03	6.80E-03	6.80E-03	6.80E-03	1.50E-03	77.94%	92.50%
	Vancouver Plant	B-2	1.60E-02	1.60E-02	2.60E-02	3.40E-03	4.00E-03	4.00E-03	7.20E-04	3.90E-03	25.00%	81.25%
		B-3	6.00E-03	2.00E-03	6.50E-03	3.80E-03	2.40E-03	2.00E-03	2.00E-03	1.00E-03	50.00%	83.33%
Nalco/Exxon Energy Chemicals Canada Inc.	Chemical Manufacturing Plant	B-3	1.40E-04	1.40E-04	1.40E-04	9.00E-06	9.00E-06	7.00E-06	6.00E-06	nm	100.00%	100.00%
Natural Resources Canada	NRCan Laboratories	A-1	1.11E-03	1.11E-03	1.11E-03	1.10E-03	1.10E-03	1.10E-03	1.10E-03	1.10E-03	0.00%	0.90%
		A-2	4.00E-03	4.00E-03	4.00E-03	3.00E-03	3.00E-03	3.00E-03	3.00E-03	3.00E-03	0.00%	25.00%
		B-2	4.32E-02	4.32E-02	4.32E-02	3.35E-02	3.35E-02	3.35E-02	3.35E-02	3.35E-02	0.00%	22.45%
		B-3	1.42	1.42	1.42	1.39	1.39	1.39	1.39	1.39	0.00%	1.96%
Newmont Canada Ltd. (Formerly Battle Mountain Canada Ltd.)	Golden Giant Mine (Formerly a Battle Mountain Canada Facility)	B-2	83.09	122.26	60.71	96.92	100.20	23.85	36.73	3.55	85.13%	95.73%
	Holloway Mine (Formerly a Battle Mountain Canada Facility)	B-2	4.31E-02	no	4.31E-02	9.85E-02	1.26E-01	1.56E-02	2.76E-02	8.50E-03	45.51%	80.28%
	Silidor Mine - CLOSED (Formerly a Battle Mountain Canada Facility)	A-2	4.24E-04	4.24E-04	8.30E-04	7.00E-04	na	no	no	no	na	100.00%
		B-2	1.63E-02	2.22E-02	4.07E-02	1.85E-02	2.30E-03	no	no	no	na	100.00%
Nexen Chemicals Canada	Amherstburg (Formerly a CXY Chemicals Canada Facility)	B-2		0.00	0.00	0.00	0.00	0.00	1.00E-02	1.00E-02	na	100.00%
	Beauharnois (Formerly a CXY Chemicals Canada Facility)	B-2	0.00	0.00	0.00	2.50E-02	2.50E-02	6.00E-02	2.60E-02	2.20E-02	63.33%	na
Nexfor Inc.	Edmunston Sulphite Pulp - Fraser	B-2	14.00	14.00	10.19	11.00	12.30	12.50	12.40	12.60	-0.80%	10.00%
	La Sarre Oriented Strandboard - Norboard	B-3	26.84	26.99	26.80	14.30	11.20	12.66	12.57	12.60	0.47%	53.06%
	Masson Newsprint - James Maclaren (SOLD)	B-3	25.30	25.30	17.00	nd	nd	nd	nd	nd	na	100.00%

na — not available, **nd** — non-detectable, **nm** — non-measurable, **no** — facility not in operation. **(Note):** Negative percentages denote an increase in reported releases.

Appendix 2 RELEASES BY FACILITY

COMPANY NAME	FACILITY NAME	Cat.	Releases (All values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	Reduction From Base Year	Reduction Since ELI Upgrades
	Prince George Kraft Pulp - Northwood P & T (SOLD)	B-2	42.20	35.90	35.90	35.00	36.00	34.40	34.40	34.40	0.00%	18.48%
		B-3	52.00	52.00	45.00	30.00	30.00	15.70	15.70	15.70	0.00%	69.81%
	Thurso Kraft Pulp - Fraser Papers Inc. (Canada)	B-1	0.16	0.16	nd	nd	nd	nd	nm	nd	na	100.00%
		B-2	5.89	5.89	5.89	0.10	0.10	nd	nm	nd	na	100.00%
		B-3	2.85	2.85	1.80	nd	nd	nd	nd	nd	na	100.00%
	Val d'Or Oriented Strandboard - Norboard	B-3	91.38	99.17	31.70	43.02	46.49	30.35	34.00	67.10	-121.09%	26.57%
Norampac Inc.	Red Rock Mill	A-1	0.10	0.10	5.70E-02	5.70E-02	5.70E-02	5.70E-02	5.70E-02	5.70E-02	0.00%	41.24%
		A-2	2.40E-03	2.40E-03	2.40E-03	2.40E-03	2.40E-03	2.40E-03	2.40E-03	2.40E-03	0.00%	0.00%
		B-1	7.40E-03	7.40E-03	7.40E-03	7.40E-03	7.40E-03	7.40E-03	7.40E-03	7.40E-03	0.00%	0.00%
		B-2	12.33	0.71	0.94	0.94	0.94	0.94	0.94	0.94	0.00%	92.34%
		B-3	85.92	84.45	45.53	45.66	45.66	45.66	45.66	45.66	0.00%	46.86%
	Trenton Mill	B-2	0.32	0.32	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-3	20.00	20.00	18.91	18.80	18.80	18.80	18.80	18.80	0.00%	5.98%
Noranda Inc.	Brunswick Mining Division	B-2	51.10	29.00	11.70	21.60	17.27	14.80	14.07	45.35	-206.40%	11.26%
	Brunswick Smelting Division	A-2	4.80	3.60	2.70	2.00	0.90	3.20	0.99	1.50	53.13%	68.75%
		B-2	70.60	29.00	17.30	20.50	18.96	21.79	16.53	19.08	12.45%	72.98%
	Canadian Electrolytic Zinc	A-2	0.80	0.30	0.90	1.50	1.55	1.75	1.66	0.10	94.29%	87.50%
		B-2	183.12	152.22	111.73	115.30	104.51	91.97	53.66	27.50	70.10%	84.98%
	CCR Refinery	B-2	30.90	6.80	5.20	7.30	5.98	7.31	4.36	4.86	33.51%	84.27%
	CLOSED Sites: Boss, Bell, Mattabi, Brenda, Geco, Belledune Fert.	A-2	0.70	0.60	0.70	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-2	20.77	12.36	12.84	11.70	0.53	3.28	1.10	1.19	63.57%	94.26%
		B-3	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
	Gaspé Mines	A-2	1.90	0.50	0.50	0.20	0.15	0.26	0.33	0.26	0.78%	86.53%
		B-2	256.70	53.15	46.86	32.26	22.52	34.35	44.12	44.35	-29.10%	82.72%
	General Smelting of Canada	B-2	3.75E-03	na	na	1.28E-02	8.79E-03	0.00	7.08E-03	1.08E-02	na	-188.00%
	Heath Steele Division	A-2	2.00E-02	na	na	na	2.00E-02	2.00E-02	2.00E-02	0.00	100.00%	100.00%
		B-2	47.00	16.00	12.25	11.09	7.13	6.29	6.83	4.34	31.00%	90.77%
	Horne Smelter	A-2	39.40	5.50	4.00	2.90	2.23	2.68	2.48	2.66	0.63%	93.24%
		B-2	1551.30	486.80	635.55	659.91	482.61	373.74	380.24	269.51	27.89%	82.63%
	Matagami Division	A-2	4.10E-02	4.10E-02	3.10E-02	3.28E-02	4.14E-02	0.00E+00	3.00E-02	2.00E-02	na	51.22%
		B-2	10.10	2.60	3.19	3.40	2.90	1.20	3.90	11.04	-819.83%	9.28%
Norske Skog Canada	Crofton Pulp and Paper (Formerly a Fletcher Belledune Fert. Challenge Ltd. Facility)	B-3	785.25	609.55	598.60	374.30	154.00	239.00	239.00	na	na	na
	Elk Falls Pulp and Paper (Formerly a Fletcher Challenge Ltd. Facility)	A-1	6.42E-02	6.40E-02	6.40E-02	6.40E-02	3.20E-02	3.20E-02	3.20E-02	na	na	na
		B-1	1.26E-03	8.28E-05	8.28E-05	8.28E-05	4.14E-05	4.14E-05	4.14E-05	na	na	na
		B-2	9.14	5.69	5.69	5.69	2.84	2.84	2.84	na	na	na
		B-3	1133.14	866.32	415.24	457.56	228.78	228.78	228.78	na	na	na
	Paper Mills - Powell River and Port Alberni (Formerly a MacMillan Bloedel Ltd. Facility)	A-1	3.52E-02	1.20E-02	1.20E-02	1.20E-02	1.20E-02	1.20E-02	1.20E-02	na	na	na
		B-1	0.14	6.80E-02	6.80E-02	6.80E-02	6.80E-02	6.80E-02	6.80E-02	na	na	na
		B-2	95.00	5.80	5.80	5.80	5.80	5.80	5.80	na	na	na
		B-3	173.00	84.40	84.40	84.40	84.40	84.40	84.40	na	na	na
NOVA Chemicals Ltd.	Corunna Site	B-3	99.30	99.30	55.60	83.70	65.10	52.10	45.20	101.10	-94.05%	-1.81%
	Joffre Manufacturing Site	B-3	36.90	30.80	35.80	21.80	20.50	15.10	5.30	20.50	-35.76%	44.44%
	Saint Clair River Site	B-2	6.30	6.30	0.80	0.00	0.00	0.00	0.00	0.00	na	100.00%

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COMPANY NAME	FACILITY NAME	Cat.	Releases (All values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	Reduction From Base Year	Reduction Since EL1 Update
		B-3	0.10	0.10	0.10	0.10	0.00	0.00	0.00	0.00	na	100.00%
	Sarnia Site - NOVA	B-3	267.00	231.00	23.00	24.40	27.90	34.80	40.90	31.20	10.34%	88.31%
Nova Scotia Power, Inc.	NSPI Generating, Transmission and Distribution Facilities	A-1	4.40E-03	4.40E-03	4.40E-03	4.40E-03	4.40E-03	4.40E-03	4.40E-03	0.12	-2627.27%	-2627.27%
		A-2	7.80E-02	7.80E-02	7.80E-02	7.80E-02	7.80E-02	7.80E-02	7.80E-02	7.80E-02	0.00%	0.00%
		B-2	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	0.08%	0.08%
		B-3	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.00%	0.00%
Novopharm Limited	Plant 101 (Toronto)	B-2	418.41	409.00	418.41	366.56	313.25	274.20	96.56	0.43	99.84%	99.90%
	Plant 102 (Toronto)	B-2	1.57E-02	1.57E-02	1.57E-02	1.57E-02	9.86E-02	5.69E-02	5.00E-02	0.00	100.00%	100.00%
	Plant 106 (Markham)	B-2	72.98	97.00	72.98	61.96	226.99	168.51	260.83	171.90	-2.01%	-135.54%
	Plant 107 (Markham)	B-2	21.31	10.00	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
	Plant 112 (Toronto)	B-2	13.57	7.90	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
	Plant 118 (Stouffville)	B-2	0.00	0.00	0.00	0.00	0.00	0.04	0.12	0.00	100.00%	na
ONDEO Nalco Canada Inc. (Formerly Nalco Canada Inc.)	Burlington Manufacturing Site (Formerly a Nalco Canada Inc. Facility)	B-2	0.79	0.54	1.16	0.42	0.17	0.24	0.17	0.17	30.33%	78.48%
		B-3	1.04	1.01	8.90E-02	0.30	0.14	0.13	0.14	2.20E-02	82.83%	97.87%
Ontario Power Generation Inc.	Generating Operations	B-2	95.80	78.91	64.40	60.03	38.82	37.19	35.93	36.35	2.25%	62.06%
		B-3	3.67	3.67	1.59	2.37	2.93	1.96	1.99	1.25	36.14%	65.86%
Perkins Papers Ltd.	Candiac Tissue Mill	A-1	1.87E-09	1.87E-09	1.87E-09	1.87E-09	1.87E-09	1.87E-09	1.87E-09	1.87E-09	0.00%	0.00%
		B-1	5.18E-06	5.18E-06	5.18E-06	5.18E-06	5.18E-06	5.18E-06	5.18E-06	5.18E-06	0.00%	0.00%
		B-2	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.00%	0.00%
Petro-Canada	Downstream Petroleum Operations	B-1	4.31	4.31	1.10	0.92	0.58	0.58	0.00	1.00E-02	98.28%	99.77%
		B-3	120.31	120.31	113.23	98.50	72.77	66.04	40.88	46.32	29.86%	61.50%
Pétromont Inc.	East Montreal Site	B-2	49.40	49.40	no	no	no	no	no	no	na	100.00%
		B-3	35.00	35.00	no	no	no	no	no	no	na	100.00%
	Varennes Site	B-3	56.68	56.68	52.48	36.69	33.53	37.30	33.64	34.07	8.66%	39.89%
Placer Dome (CLA) Limited	All Placer Dome mines	A-2	1.50E-02	6.00E-03	5.00E-03	3.00E-03	3.00E-02	2.00E-02	6.00E-03	nd	100.00%	100.00%
		B-2	141.67	13.63	7.24	8.74	3.66	3.51	3.06	1.30	62.96%	99.08%
Plastmo Ltd.	Plastmo Ltd.	B-2	0.10	0.10	0.10	5.00E-02	3.00E-02	0.00	0.00	0.00	na	100.00%
PolyOne Canada (Formerly Synergistics Inc.)	PolyOne Canada (Formerly a Synergistics Inc. Facility)	B-1	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.00	99.91%	99.91%
Pope & Tolbot Ltd.	Harmac Pulp Operations	A-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.44%	69.69%
		B-3	112.45	65.69	60.34	69.69	101.78	98.30	70.29	52.72	46.37%	53.12%
	Mackenzie Pulp (Formerly a Fletcher Challenge Ltd. Facility)	A-1	3.24E-05	6.50E-07	nd	nd	nd	nd	1.30E-06	1.00E-06	na	96.91%
		B-3	153.40	39.10	1.90	9.60	14.00	13.70	38.10	62.60	-356.93%	59.19%

na — not available, **nd** — non-detectable, **nm** — non-measurable, **no** — facility not in operation. **(Note):** Negative percentages denote an increase in reported releases.

Appendix 2 RELEASES BY FACILITY

aRET Accelerated Reduction/Elimination of Toxics

COMPANY NAME	FACILITY NAME	Cat.	Releases (All values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	Reduction From Base Year	Reduction Since EL3 Update
PPG Canada Inc.	Beauharnois Plant	B-2	1.30E-02	3.30E-03	1.37E-03	9.00E-04	5.30E-04	9.00E-04	9.90E-04	5.00E-04	44.44%	96.15%
Recochem Inc.	Napierville Refineries	A-2	26.00	24.80	9.76	9.50	8.00	9.04	10.54	12.68	-40.20%	51.23%
Rhodia Canada Inc.	Mississauga Plant	B-1	1.40E-04	na	na	na	na	na	na	0.00	na	100.00%
		B-2	35.33	5.03	4.16	2.73	0.87	0.66	0.61	0.14	78.27%	99.60%
		B-3	0.85	0.85	0.93	0.48	0.81	0.91	1.05	0.63	32.26%	26.00%
	St. Catharines Plant	B-3	1.00E-03	na	1.00E-03	1.00E-03	0.00	0.00	0.00	0.00	na	100.00%
	Valleyfield Plant	B-2	6.46	6.45	6.31	5.30	0.00	0.00	0.00	0.00	na	100.00%
		B-3	1.00E-02	na	1.00E-02	1.00E-02	0.00	0.00	0.00	0.00	na	100.00%
Rohm and Haas Canada Inc.	West Hill Plant	B-3	0.77	0.73	0.98	6.00E-02	6.00E-02	5.00E-02	0.42	1.90E-02	62.00%	97.53%
Safety-Kleen Canada Inc.	Breslau Re-Refinery	B-3	0.91	0.91	0.91	0.26	4.92E-02	5.81E-04	1.08E-03	8.09E-04	-39.19%	99.91%
Shell Canada Limited	Petroleum Operations	B-1	3.00	1.60	2.00	2.00	1.60	1.40	1.00	1.25	10.71%	58.33%
		B-2	13.80	13.80	13.80	13.00	12.50	12.40	10.40	9.60	22.58%	30.43%
		B-3	797.00	450.00	313.00	279.00	245.00	166.00	173.30	84.00	49.40%	89.46%
Shell Chemicals Canada Limited	Scotford Plant	B-3	36.00	32.00	24.00	23.00	33.00	23.70	27.30	27.70	-16.88%	23.06%
Sherritt International Corporation	Sherritt International	B-2	1.86	1.86	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-3	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.00%	0.00%
Shrader Canada Ltd.	Shrader Canada Ltd.	B-2	0.26	0.26	0.13	0.13	0.13	0.13	0.13	0.00	100.00%	100.00%
		B-3	0.13	0.13	0.13	0.00	0.00	0.00	0.00	0.00	na	100.00%
Skeena Cellulose Inc.	Skeena Pulp Operations	B-3	800.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00%	99.88%
Slater Steels Inc.	Hamilton Specialty Bar	B-2	74.38	8.61	8.56	8.37	8.38	9.26	12.49	12.07	-30.30%	83.77%
Smurfit-Stone Container Corporation Canada	La Tuque Plant	A-1	1.27	1.23	1.23	1.23	0.27	4.30E-02	4.30E-02	2.20E-02	48.84%	98.27%
		B-1	1.76	1.87	1.53	1.48	0.37	2.50E-02	2.50E-02	1.40E-02	44.00%	99.21%
		B-2	150.69	150.69	30.44	23.62	25.89	22.10	22.10	6.43	70.89%	95.73%
		B-3	147.64	147.88	146.18	110.92	64.67	61.12	61.12	84.78	-38.72%	42.57%
	Matane Plant	B-2	3.36	3.36	3.36	5.90E-02	5.90E-02	0.10	0.10	0.00	100.00%	100.00%
		B-3	17.68	17.68	17.68	15.28	15.64	10.97	10.97	13.23	-20.55%	25.18%
	Thunder Bay Packaging Mill	B-2	1.36	1.36	1.36	9.10E-02	9.10E-02	9.10E-02	9.10E-02	9.10E-02	0.00%	93.31%
		B-3	9.40E-02	9.40E-02	9.40E-02	1.60E-02	1.60E-02	3.00E-04	3.00E-04	2.90E-03	-866.67%	96.91%
Solutia Canada Inc.	LaSalle Plant	A-1	4.00E-03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
		A-2	1.00E-02	1.00E-02	0.10	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-2	0.52	5.40E-02	0.11	6.00E-02	0.10	0.00	6.00E-02	0.00	na	100.00%
		B-3	299.57	57.29	48.04	27.77	23.99	3.33	3.39	5.76	-72.80%	98.08%

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COMPANY NAME	FACILITY NAME	Cat.	Releases (All values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	Reduction From Base Year	Reduction Since EL3 Update
Spexel Inc.	Specialty Fine Papers	A-1	2.00E-04	2.00E-04	2.00E-04	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-2	4.30E-02	4.30E-02	1.03E-03	7.80E-04	2.30E-04	3.00E-04	3.00E-04	3.00E-04	0.00%	99.30%
		B-3	23.61	1.71	0.16	1.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00	na	100.00%
Spruce Falls Inc.	Newsprint and Saw Mills	A-1	3.53E-03	na	3.53E-03	4.84E-03	5.55E-03	4.72E-03	2.30E-04	5.09E-08	100.00%	100.00%
		B-1	1.30E-04	na	1.30E-04	1.78E-04	2.05E-04	1.73E-04	8.00E-06	nd	100.00%	100.00%
		B-2	5.88E-03	na	5.88E-03	9.01E-03	4.82E-03	8.33E-04	1.24E-03	1.00E-03	-20.05%	82.98%
		B-3	2.66E-02	na	2.66E-02	1.50E-03	4.00E-04	2.00E-04	2.30E-04	1.00E-03	-400.00%	96.24%
St. Anne Nackawic Pulp Company Ltd.	Nackawic Pulp Mill	B-2	30.50	30.50	32.50	8.30	8.40	11.35	16.60	6.20	45.37%	79.67%
		B-3	671.50	671.50	282.25	358.00	338.00	137.00	124.00	74.80	45.40%	88.86%
Stelco Inc.	AltaSteel Ltd.	A-1	6.00E-04	na	na	na	na	na	6.00E-04	1.00E-04	na	83.33%
		A-2	7.70E-03	7.70E-03	1.02E-02	2.52E-02	1.99E-02	2.09E-02	1.81E-02	1.41E-02	32.54%	-83.12%
		B-2	2.36	2.36	3.06	7.69	5.86	6.22	5.01	4.79	23.11%	-102.88%
		B-3	1.39	1.39	1.39	5.04	7.11	0.76	0.67	0.74	2.07%	46.79%
	CHT Steel Company Inc.	B-2	1.01E-03	1.01E-03	1.01E-03	1.00E-05	1.00E-05	0.00	0.00	0.00	na	100.00%
		B-3	2.50E-04	5.00E-05	5.00E-05	0.00	0.00	0.00	2.00E-04	1.00E-04	na	60.00%
	Hilton Works	A-1	44.55	44.55	23.25	35.37	32.92	9.36	14.44	13.54	-44.64%	69.62%
		A-2	0.80	0.80	0.80	0.80	0.80	0.80	1.02	1.00	-24.50%	-24.81%
		B-1	7.36	7.36	3.83	5.80	5.40	1.64	2.60	2.24	-36.52%	69.51%
		B-2	13.65	13.65	23.09	36.24	30.63	17.44	14.12	18.39	-5.44%	-34.67%
		B-3	835.23	835.23	658.23	777.81	793.45	901.98	833.73	772.59	19.94%	7.50%
	Lake Erie Steel Company Ltd.	A-1	15.71	15.71	15.71	14.14	14.14	4.91	4.91	9.46	-92.80%	39.78%
		A-2	0.11	0.11	0.11	0.11	0.11	0.11	0.14	0.14	-27.27%	-27.27%
		B-1	2.90E-02	2.90E-02	2.90E-02	2.90E-02	2.90E-02	2.90E-02	2.90E-02	2.90E-02	0.00%	0.00%
		B-2	14.56	14.57	14.58	13.67	14.57	13.18	14.34	14.82	-12.42%	-1.74%
		B-3	920.74	920.74	882.75	653.00	652.38	888.03	879.71	920.41	-3.65%	0.04%
	Stelco McMaster Ltd.	A-2	5.00E-02	5.00E-02	1.00E-02	1.10E-02	1.10E-02	1.20E-02	1.20E-02	1.27E-02	-5.83%	74.60%
		B-2	7.25	7.21	15.64	16.10	16.37	16.64	16.72	17.28	-3.86%	-138.32%
		B-3	2.00E-03		2.00E-03	4.10E-02	0.29	5.43E-02	0.13	2.43E-02	55.25%	-1115.00%
	Stelfil Ltd.	B-2	2.58	2.58	7.85	0.32	0.29	0.32	0.33	0.35	-11.11%	86.43%
	Stelpipe Ltd.	B-1	1.00E-05	1.00E-05	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-2	0.75	0.54	0.51	0.23	0.22	4.78E-02	0.29	0.25	-428.01%	66.42%
		B-3	0.28	3.09E-02	8.82E-02	0.30	0.34	0.42	0.08	0.41	3.71%	-47.73%
	Stelwire Ltd., Burlington Works	B-1	1.00E-04	1.00E-04	1.00E-04	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-2	0.14	0.14	8.75E-02	8.49E-03	3.57E-02	5.23E-02	2.30E-02	2.80E-02	46.46%	80.04%
		B-3	1.10E-03	1.10E-03	6.00E-04	1.00E-04	1.10E-02	1.05E-02	1.68E-02	1.10E-02	-4.76%	-900.00%
	Stelwire Ltd., Parkdale Factory	B-2	5.41	0.70	0.70	0.69	0.79	0.86	0.78	0.48	44.48%	91.21%
		B-3	2.00E-03	2.00E-03	2.00E-03	2.11E-01	4.24E-02	5.40E-02	6.59E-02	4.80E-02	11.11%	-2300.00%
	Welland Pipe Ltd.	B-2	6.09E-02	6.09E-02	1.65E-02	1.16E-02	1.85E-02	1.00E-02	4.90E-03	4.70E-03	53.00%	92.28%
		B-3	7.00E-03	7.00E-03	5.70E-03	0.20	0.22	0.28	0.20	0.17	38.18%	-2328.57%
Stepan Canada Inc.	Surfactant Manufacturing Plant	B-2	0.10	0.10	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	1.00E-02	0.00%	90.00%
		B-3	0.69	0.69	0.11	0.11	0.11	0.11	0.11	0.11	0.00%	84.01%

na — not available, **nd** — non-detectable, **nm** — non-measurable, **no** — facility not in operation (**Note**): Negative percentages denote an increase in reported releases.

Appendix 2 RELEASES BY FACILITY

aRET Accelerated Reduction/Elimination of Toxics

COMPANY NAME	FACILITY NAME	Cat.	Releases (All values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	Reduction From Base Year	Reduction Since EL3 Update
Sterling Pulp Chemicals, Ltd.	All Canadian Facilities	B-3	2.19	2.19	0.11	0.16	5.00E-02	9.00E-03	1.40E-02	2.20E-02	-144.84%	99.00%
	Saskatoon Chemicals Ltd.	B-2	1.64E-04	1.64E-04	1.96E-03	2.00E-05	2.00E-05	2.00E-05	2.00E-05	0.00	100.00%	100.00%
StoraEnso North America	StoraEnso Port Hawkesbury	B-2	3.00E-02	3.00E-02	3.00E-02	0.00	0.00	0.00	0.00	0.00	na	100.00%
		B-3	230.96	220.96	220.61	190.00	190.00	32.00	0.00	0.00	100.00%	100.00%
Stradacona Inc. (Formerly Daishowa Inc.)	Quebec Division (Formerly a Daishowa Inc. Facility)	B-2	0.36	0.24	0.16	0.11	7.50E-02	7.60E-02	7.70E-02	7.60E-02	0.00%	78.59%
		B-3	235.96	162.02	79.22	0.16	0.13	0.13	0.14	0.30	-139.68%	99.87%
Strathcona Paper Company	Napanee Plant	B-3	7.70E-03	7.70E-03	2.70E-03	3.38E-02	nd	9.00E-05	7.00E-05	5.00E-05	44.44%	99.35%
Suncor Energy Inc.	Oil Sands Group	B-2	5.46	na	5.46	2.05	1.71	2.14	2.24	3.09	-44.53%	43.42%
		B-3	138.30	na	138.30	178.90	93.00	66.50	25.50	37.80	43.16%	72.67%
	Sunoco Group - Sarnia Refinery	B-3	49.00	49.00	31.00	28.80	18.00	17.00	22.00	17.00	0.00%	65.31%
Suzorite Mica Products Inc.	Mica Production Facility	B-2	60.00	60.00	60.00	60.00	33.00	15.00	15.00	17.00	-13.33%	71.67%
Sydney Steel Corporation	Sydney Steel Mill	B-2	1.28	1.28	0.78	0.33	0.27	0.55	0.28	0.28	49.09%	78.13%
Syncrude Canada Ltd.	Mildred Lake Site	A-2	0.23	0.16	0.22	7.90E-02	1.80E-02	9.00E-03	1.00E-02	1.80E-02	-100.00%	92.24%
		B-2	3.67	2.52	3.41	1.26	31.48	16.22	3.21	8.34	48.58%	-127.24%
		B-3	1044.20	354.20	103.30	59.20	207.50	250.80	216.60	149.20	40.51%	85.71%
Teck Cominco Metals Ltd. (Formely Cominco Ltd.)	Teck Cominco Ltd. (All Facilities)	A-2	13.80	5.50	5.90	7.30	2.80	0.80	0.98	0.49	38.75%	96.45%
		B-2	847.80	274.45	288.28	451.40	210.22	162.05	181.41	162.40	-0.22%	80.84%
Tembec Inc.	Temiscaming Complex	B-3	16.45	16.45	16.45	10.45	10.72	9.13	9.13	9.13	0.00%	44.48%
Tembec Inc. - Pulp Group	Pulp Mill Division (Formerly a Crestbrooke Industries Facility)	A-1	2.73E-06	2.73E-06	3.10E-07	1.47E-07	1.70E-07	2.54E-07	3.17E-07	2.58E-07	-1.57%	90.55%
		B-1	3.40E-03	3.40E-03	0.00	0.00	0.00	na	na	na	na	na
		B-2	1.60	1.60	2.03	2.63	2.00E-04	na	0.84	na	na	na
		B-3	373.79	373.79	16.29	20.43	27.49	24.29	65.84	62.09	-155.57%	83.39%
The Cobalt Refinery Company	Corefco Refinery	B-2	14.51	14.51	5.13	2.37	1.93	1.93	1.93	1.93	0.00%	86.70%
TransAlta Utilities Corporation	Wabamun, Keephills and Sundance Thermal Generating Plants	A-1	1.50E-02	1.50E-02	1.50E-02	1.50E-02	1.50E-02	1.50E-02	1.50E-02	1.20E-02	20.00%	20.00%
		A-2	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-03	90.00%	90.00%
		B-2	2.32	2.32	2.02	1.99	2.01	1.99	1.99	1.12	43.63%	51.70%
Ultramar Ltd.	St-Romuald Refinery	B-2	7.20E-02	7.20E-02	6.50E-02	7.00E-02	1.80E-02	2.80E-02	2.60E-02	9.10E-02	-225.00%	-26.39%
		B-3	33.02	33.02	13.37	14.76	14.26	13.66	10.35	6.26	54.17%	81.05%
Union Carbide Canada Inc.	Prentiss Plant	B-2	16.43	7.32	5.01	5.21	5.04	4.39	4.39	4.64	-5.74%	71.75%
		B-3	3.30	4.17	0.16	0.15	0.32	0.24	0.24	0.23	4.62%	93.12%
UPM - Kymmene Miramichi Inc. (Formerly Repap New Brunswick Inc.)	Kraft/Paper Division (Formerly a Repap New Brunswick Facility)	A-1	2.51E-05	nd	nd	nd	6.50E-08	2.30E-07	2.40E-07	0.00	100.00%	100.00%
		B-2	6.01	6.11	6.11	6.11	7.53	7.45	7.44	3.30	55.70%	45.09%
		B-3	1432.37	83.89	93.04	93.99	98.05	96.60	63.37	67.77	29.84%	95.27%

na — not available, **nd** — non-detectable, **nm** — non-measurable, **no** — facility not in operation. (**Note**): Negative percentages denote an increase in reported releases.

COMPANY NAME	FACILITY NAME	Cat.	Releases (All values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	Reduction From Base Year	Reduction Since EL3 Upadte
VFT Inc.	Hamilton Plant	A-1	1.71	1.34	0.93	0.91	0.71	0.71	0.72	0.73	-2.24%	57.28%
		B-1	0.20	0.15	0.11	0.10	0.08	0.08	0.08	0.08	2.44%	59.18%
		B-2	1.70E-02	1.30E-02	9.00E-03	9.00E-03	7.00E-03	7.00E-03	0.00	2.00E-02	-185.71%	-17.65%
		B-3	16.27	14.67	13.86	6.55	6.50	9.70	10.10	9.90	-2.10%	39.15%
Vitafoam Products Canada Ltd.	Toronto, Calgary and Winnipeg Operations	B-1	18.93	na	na	18.93	11.00	11.00	11.00	11.00	0.00%	41.89%
		B-2	275.02	250.00	278.66	271.96	275.02	275.02	275.02	275.02	0.00%	0.00%
Weldwood of Canada Limited	Hinton Division	A-1	0.15	3.80E-03	4.00E-03	3.90E-03	3.90E-03	3.80E-03	4.00E-03	4.00E-03	-5.26%	97.40%
		B-1	0.35	4.20E-03	4.00E-03	3.90E-03	3.90E-03	3.80E-03	4.00E-03	4.00E-03	-5.26%	98.84%
		B-2	11.76	0.46	0.44	0.44	0.44	0.44	0.42	0.44	1.32%	96.30%
		B-3	221.66	69.08	21.47	36.64	34.70	51.96	28.96	30.25	41.79%	86.35%
Weyerhaeuser Canada Ltd.	Engineered Wood Products : k3 & Multiply (Formerly a MacMillen Bloedel Facility)	B-3	20.00	20.00	20.00	20.00	20.00	20.00	20.00	na	na	na
	Kamloops Pulp Mill	A-1	2.00E-05	4.47E-06	4.60E-07	7.50E-07	4.40E-07	nd	nd	9.60E-08	na	99.52%
		B-3	313.00	102.00	71.30	55.90	51.80	37.00	58.40	46.00	-24.32%	85.30%
	Dryden Operations	B-1	0.77	na	na	nd	na	na	na	na	na	na
		B-2	14.68	1.86	0.02	7.25	6.93	6.93	6.93	6.93	0.00%	52.77%
		B-3	300.37	280.00	146.00	145.14	147.46	147.46	147.46	147.46	0.00%	50.91%
	Prince Albert Pulp & Paper	A-1	5.19E-05	2.79E-07	4.30E-06	3.34E-07	1.69E-07	1.04E-07	1.04E-07	1.04E-07	0.00%	99.80%
		B-2	5.20E-03	7.00E-06	7.00E-06	7.00E-06	7.00E-06	7.00E-06	7.00E-06	7.00E-06	0.00%	99.87%
		B-3	3580.00	3982.00	4164.00	2943.00	1387.50	1049.10	1049.10	1049.10	0.00%	70.70%
	Grande Prairie Operation	A-1	2.79E-06	4.43E-07	1.41E-07	4.10E-08	1.32E-07	2.76E-08	8.12E-08	1.49E-07	-440.94%	94.64%
		B-1	1.26	2.52E-02	2.00E-03	1.90E-03	1.90E-03	2.00E-03	2.00E-03	1.01E-02	-405.00%	99.20%
		B-2	5.61	5.61	5.61	1.93	1.61	1.96	1.60	2.57	-31.26%	54.14%
		B-3	14.37	9.32	4.10	5.60	2.90	3.04	10.50	3.36	-10.36%	76.65%
Wyeth-Ayerst Canada Inc.	St-Laurent Plant	B-2	45.40	45.40	45.40	23.00	18.60	18.60	18.60	18.60	0.00%	59.03%
Zep Manufacturing of Canada	Zep Manufacturing of Canada	B-3	2.00E-03	2.00E-03	0.00	0.00	0.00	0.00	0.00	0.00	na	100.00%

na — not available, **nd** — non-detectable, **nm** — non-measurable, **no** — facility not in operation. **(Note):** Negative percentages denote an increase in reported releases.

Appendix 3 EMISSIONS BY SUBSTANCE

aRET
Accelerated Reduction/Elimination of Toxics

Cat.	SUBSTANCE	Releases (All Values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	2000 Projected	Reduction Since EL3 Update	Reduction From Base Year
	LIST A-1 SUBSTANCES											
A-1	PAHs A-1 (not speciated)	904	411	348	400	425	437	410	382	244	12.5%	57.7%
A-1	Fluoranthene	66.0	64.7	22.1	24.1	23.7	13.6	11.6	9.86	16.2	27.5%	85.1%
A-1	Chrysene	25.5	24.5	11.8	12.3	12.1	8.48	7.12	5.73	8.04	32.4%	77.6%
A-1	Phenanthrene	25.2	23.2	19.6	21.2	20.3	14.8	12.4	10.8	13.0	27.2%	57.2%
A-1	Pyrene	22.8	21.7	17.6	19.6	19.2	11.8	9.17	7.78	13.3	34.1%	65.9%
A-1	Benz(a)anthracene	16.4	15.7	5.57	5.67	5.67	4.98	4.59	4.31	3.75	13.5%	73.7%
A-1	Benzo(a)pyrene	12.9	12.3	7.22	8.59	8.49	5.72	4.66	4.14	4.97	27.7%	67.9%
A-1	Dibenz(a,h)anthracene	10.3	9.65	5.24	4.87	4.71	4.44	4.06	3.72	3.37	16.2%	64.0%
A-1	Benzo(k)fluoranthene	8.85	8.45	5.58	8.15	7.83	4.46	2.87	2.19	4.48	51.0%	75.2%
A-1	Indeno(1,2,3-c,d)pyrene	6.43	6.19	2.13	2.15	2.16	1.90	1.33	1.27	1.43	33.2%	80.2%
A-1	Benzo(e)pyrene	4.49	4.47	4.05	4.91	4.88	2.14	1.31	0.93	2.28	56.4%	79.2%
A-1	Benzo(b)fluoranthene	4.47	3.86	3.81	4.86	4.83	4.44	3.00	2.11	2.32	52.5%	52.8%
A-1	Dibenzo(a,i)pyrene	4.44	3.82	3.82	3.80	3.65	3.70	2.31	1.41	2.31	61.8%	68.2%
A-1	Benzo(g,h,i)perylene	3.77	3.75	2.71	3.22	3.14	1.31	0.77	0.92	2.23	29.7%	75.7%
A-1	Perylene	1.19	1.03	1.03	1.02	0.98	1.00	0.63	0.38	0.63	61.4%	67.8%
A-1	Pentachlorophenol	0.57	5.31E-02	2.97E-02	3.90E-03	3.90E-03	3.80E-03	4.00E-03	4.00E-03	4.00E-03	5.3%	99.3%
A-1	Benzo(j)fluoranthene	0.30	0.26	0.26	0.26	0.25	0.25	0.16	9.51E-02	0.16	61.8%	68.1%
A-1	Hexachlorobenzene	6.91E-02	6.74E-02	6.80E-02	8.68E-07	8.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	na	100.0%
A-1	Dibenz(a,j)acridine	4.41E-02	4.36E-02	4.07E-03	7.35E-02	8.34E-02	5.34E-02	4.22E-02	4.13E-02	6.20E-03	22.6%	6.3%
A-1	7H-dibenzo(c,g)carbazole	4.41E-02	4.36E-02	4.07E-03	3.50E-03	3.40E-03	3.40E-03	2.20E-03	1.31E-03	2.20E-03	61.3%	97.0%
A-1	2,3,7,8-Tetrachlorodibenzofuran	8.96E-04	2.48E-05	7.84E-06	7.99E-06	7.12E-06	5.45E-06	5.03E-06	4.19E-06	8.16E-06	23.2%	99.5%
A-1	Octachlorostyrene	7.00E-04	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	na	100.0%
A-1	PCBs	6.38E-04	0.00E+00	0.000064	0	0.00E+00	0.00E+00	6.00E-04	1.00E-04	2.00E-04	na	84.3%
A-1	2,3,7,8-TCDF/TCDD*	1.89E-04	3.48E-07	3.48E-07	3.48E-07	3.48E-07	3.48E-07	3.48E-07	na	3.48E-07	na	na
A-1	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1.46E-04	3.17E-06	3.18E-07	7.8E-07	4.59E-07	6.271E-07	2.88E-07	5.38E-07	1.18E-06	14.2%	99.6%
	Total A-1	**1118**	**615**	**461**	**525**	**547**	**520**	**476**	**438**	**322**	**16%**	**60.85%**
	*Reported as aggregate values for 2,3,7,8-tetrachlorodibenzo-p-dioxin, and 2,3,7,8-tetrachlorodibenzofuran											
	LIST A-2 SUBSTANCES											
A-2	Cadmium (inhalable & soluble inorganic)	126	90.2	27.2	33.7	47.6	40.3	37.5	30.2	13	25.1%	76.0%
A-2	1,4-Dichlorobenzene	27.7	26.3	10.8	9.66	8.29	9.28	10.8	12.9	5.233	39.1%	53.5%
	Total A-2	**154**	**117**	**38**	**43**	**55.9**	**49.6**	**48.3**	**43.1**	**18.3**	**13.1%**	**71.9%**
	LIST B-1 SUBSTANCES											
B-1	Anthracene	25.1	22.3	15.9	19.2	17.9	13.3	10.0	7.87	10.9	40.8%	68.6%
B-1	Dimethylnaphthalene	22.2	19.3	19.3	19.2	18.7	18.4	11.8	7.50	12.2	59.1%	66.2%
B-1	Bis(2-ethylhexyl)phthalate	20.6	1.48	1.26	20.1	12.1	12.1	11.9	11.1	1.09	8.4%	46.1%
B-1	Tetraethyl lead	14.57	8.60	5.00E-03	5.00E-03	5.00E-03	5.00E-03	5.00E-03	4.00E-03	0.18	20.0%	100.0%
B-1	2,4,6-Trichlorophenol	4.98	0.97	8.41E-02	3.79E-02	4.21E-02	6.85E-03	6.05E-03	1.41E-02	1.43E-02	(106.6%)	99.7%
B-1	PAHs B-1 (not speciated)	1.83	1.72	1.69	1.67	0.53	0.19	0.18	0.10	0.14	45.7%	94.5%
B-1	7,12-Dimethylbenz(a)anthracene	0.10	8.90E-02	8.90E-02	8.80E-02	8.50E-02	8.60E-02	5.40E-02	3.28E-02	5.40E-02	61.9%	68.2%
B-1	Hexachlorocyclopentadiene	6.00E-03	6.00E-03	6.00E-03	6.00E-03	6.00E-03	6.00E-03	6.00E-03	6.00E-03	6.00E-03	0.0%	0.0%
	Total B-1	**89.4**	**54.4**	**38.4**	**60.4**	**49.4**	**44.1**	**33.9**	**26.6**	**24.6**	**39.5%**	**70.2%**

na — not available.

(Note): Percentages in brackets denote an increase in reported releases.

Cat.	SUBSTANCE	Releases (All Values in Tonnes) Base Year	1993	1995	1996	1997	1998	1999	2000	2000 Projected	Reduction Since EL3 Update	Reduction From Base Year
	LIST B-2 SUBSTANCES											
B-2	Zinc (inorganic, inhalable, soluble)	3321	1613	723.5	1003.4	982	691	727	716	614	3.7%	78.4%
B-2	Lead (all forms except alkyl)	1896	1134	755.3	834.5	648	574	506	502	377	(12.6%)	73.5%
B-2	Nickel (inorganic, inhalable, soluble)	1424	579	677.5	366.1	377	366	344	431	588	17.8%	69.7%
B-2	Copper (inorganic salts)	1105	787	545.6	612.1	495	502	750	626	447	24.7%	43.4%
B-2	Methylene chloride	1093	1064	1049.6	959.1	1054	901	801	634	449	(29.7%)	42.0%
B-2	Chloroform	746	425	254.5	173.8	170	139	134	65	82	53.0%	91.2%
B-2	Arsenic (inorganic)	342	119	100.1	153.8	165	173	176	169	127	2.2%	50.6%
B-2	1,1,2,2-Tetrachloroethylene	266	178	120.4	96.1	7.88	4.68	5.79	3.61	8.26	22.0%	98.6%
B-2	Cyanides	242	157	97.99	139.4	121	37.8	51.4	15.2	49.5	59.7%	93.7%
B-2	Ethylene oxide	145	104	24.90	23.13	19.4	16.7	17.7	16.8	23.15	(0.5%)	88.4%
B-2	Carbon tetrachloride	81.4	39.5	9.91	0.68	0.47	0.86	0.87	0.55	0.99	36.5%	99.3%
B-2	1,2-Dichloroethane	70.3	20.1	6.14	17.3	19.8	27.0	28.0	22.8	23.9	15.5%	67.6%
B-2	1,4-Dioxane	34.3	24.3	7.54	6.34	3.99	2.97	1.71	0.43	0.56	85.6%	98.8%
B-2	Mercury (elemental and inorganic)	29.6	11.2	5.17	5.81	3.22	3.62	3.08	3.34	4.01	7.6%	88.7%
B-2	Chromium (Cr6+)	26.9	24.1	24.5	10.6	10.9	8.79	5.46	6.18	5.07	29.7%	77.0%
B-2	Cobalt (inorganic, soluble)	13.1	11.3	9.53	9.08	10.8	10.0	4.03	3.34	6.39	66.6%	74.4%
B-2	Benzo(a)fluorene	4.21	3.98	3.35	3.65	3.61	2.32	1.93	1.67	2.55	28.1%	60.4%
B-2	Silver (soluble inorganic salts)	3.31	2.31	0.91	1.26	1.47	1.84	1.90	1.75	1.53	5.0%	47.3%
B-2	Benzo(b)fluorene	3.10	3.07	2.36	2.71	2.72	1.31	0.88	0.68	2.01	47.8%	77.9%
B-2	2,3,4,6-Tetrachlorophenol	0.43	0.14	7.20E-02	3.90E-03	3.90E-03	3.80E-03	4.00E-03	4.00E-03	3.76E-02	(5.3%)	99.1%
B-2	Chlorodibromomethane	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.0%	0.0%
B-2	4,6-Dinitro-o-cresol	0.29	0.28	0.28	0.25	0	0	0	0	0	na	100.0%
B-2	Uranium (inorganic,inhalable,soluble)	0.14	0.14	0.14	0.14	0.14	0.14	0.14	6.67E-02	0.14	53.0%	52.9%
B-2	Beryllium	0.13	9.37E-02	5.99E-02	5.96E-02	6.61E-02	5.97E-02	5.54E-02	7.50E-02	5.65E-02	(25.7%)	41.2%
B-2	Bromodichloromethane	0.12	7.70E-02	1.20E-02	2.70E-02	3.40E-02	4.20E-02	1.50E-02	2.40E-02	1.20E-02	42.9%	80.2%
B-2	Dibenz(a,h)acridine	3.34E-02	3.29E-02	3.29E-02	3.29E-02	3.28E-02	2.28E-02	2.18E-02	2.11E-02	3.18E-02	7.6%	36.9%
B-2	alpha-chlorotoluene	2.00E-02	2.00E-02	1.00E-02	1.00E-02	1.00E-02	8.00E-03	5.00E-03	5.00E-03	5.00E-03	37.5%	75.0%
B-2	PAHs B-2 (not speciated)	1.99E-02	1.38E-02	9.87E-03	9.90E-03	7.91E-03	7.89E-03	7.95E-04	2.00E-02	3.79E-03	(153.4%)	0.0%
B-2	Bis(2-chloroethyl)ether	1.60E-02	0	0	0	8.00E-03	1.10E-02	0	0	0	100.0%	100.0%
B-2	Thiourea	1.00E-03	1.00E-03	0	0	0	0	0	0	0	na	100.0%
	Total B-2	**10846**	**6301**	**4420**	**4420**	**4097**	**3464**	**3562**	**3219**	**2812**	**7.1%**	**70.3%**
	LIST B-3 SUBSTANCES											
B-3	Hydrogen sulphide	16474	11263	11435	7112	4841	4582	4384	4369	2945	4.6%	73.5%
B-3	Benzene	3918	2880	2053	1953	1607	1417	1273	996	935	29.7%	74.6%
B-3	Chlorine dioxide	2007	1627	593	690	790	558	491	408	366	26.8%	79.7%
B-3	Formaldehyde	1815	1511	903	609	401	355	376	412	509	(15.9%)	77.3%
B-3	Ethanol	570	301	200	100	231	136	142	110	113	19.2%	80.7%
B-3	Acetaldehyde	437	279	257	299	226	197	243	261	185	32.8%	40.2%
B-3	1,3-Butadiene	367	321	226	128	113	106	95.7	119.9	91.4	(13.3%)	77.6%
B-3	Phenol	329	264	224	274	184	170	181	168	208	1.4%	49.1%
B-3	Methyl isobutyl ketone	282	263	179	177	147	153	112	131	149	14.2%	53.3%
B-3	1,1,2-Trichloroethylene	126	45.0	30.8	25.4	24.6	22.1	21.8	22.3	26.4	(1.0%)	82.4%
B-3	Acrylonitrile	24.5	22.4	17.1	11.4	7.37	6.22	8.08	7.18	9.00	(15.5%)	70.7%
B-3	Acrolein	13.7	9.06	9.09	9.53	21.8	23.0	22.6	25.4	22.3	(10.5%)	84.6%
B-3	Hydrazine	5.92	5.92	2.10	2.45	3.71	2.75	2.78	2.04	2.10	25.8%	65.5%
B-3	Acrylamide	1.73	1.73	0.81	0.38	0.29	0.23	0.26	0.15	0.15	37.0%	91.6%
B-3	Quinoline	1.55	1.29	1.12	1.09	0.94	0.20	0.20	0.19	0.95	3.0%	87.7%
B-3	2,4-Dinitrotoluene	1.5032	0.001	1.00E-03	1.00E-03	0.001	0.001	0.001	0.001	0.001	0.0%	99.9%
B-3	2,4-Dichlorophenol	1.39	1.00	1.08E-02	9.74E-03	0.02062	1.18E-02	9.80E-02	0.15	0.11	(1203.9%)	88.9%
B-3	Ethylene dibromide	1.37	1.33	1.00E-02	1.00E-02	6.00E-03	6.00E-03	6.09E-03	4.04E-02	1.00E-02	(573.3%)	97.1%
B-3	Aniline	1.10011	6.11E-03	6.01E-03	1.50E-02	1.20E-02	3.20E-02	0.367	0.433	0.367	(1253.1%)	60.6%
B-3	Epichlorohydrin	0.75	0.18	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	0.0%	99.9%
B-3	2,6-Dinitrotoluene	0.12	0	0	0	0	0	0	0	0	na	100%

na — not available.

(Note): Percentages in brackets denote an increase in reported releases.

Appendix 3 EMISSIONS BY SUBSTANCE

aRET Accelerated Reduction/Elimination of Toxics

Cat.	SUBSTANCE	Releases (All Values in Tonnes)										
		Base Year	1993	1995	1996	1997	1998	1999	2000	2000 Projected	Reduction Since EL3 Update	Reduction From Base Year
	LIST B-3 SUBSTANCES											
B-3	N-Nitrosodimethylamine (NDMA)	4.41E-02	6.09E-03	6.05E-03	3.03E-03	2.77E-03	1.51E-04	3.59E-04	1.36E-04	1.87E-04	(10.1%)	99.7%
B-3	N-Nitroso-di-n-propylamine	9.50E-03	0	0	0	0	0	0	0	0	na	100%
B-3	N-Nitrosodiphenylamine	8.40E-03	0	0	0	0	0	0	0	0	na	100%
B-3	Toluene diisocyanates	6.00E-03	6.00E-03	6.00E-03	4.00E-03	4.00E-03	6.00E-03	4.00E-03	4.00E-03	4.00E-03	(33.3%)	33.3%
B-3	Vinyl bromide	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	0.0%	0.0%
B-3	Acetamide	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	1.00E-03	0.0%	0.0%
B-3	2,6-Dimethylphenol	6.40E-05					6.40E-05	0	0	0	100.0%	100%
B-3	Tetramethylthiuram disulphide	0	0	0	0	1.80E-03	1.80E-03	0	0	0	100.0%	100%
	Total B-3	**26378**	**18797**	**16132**	**11393**	**8599**	**7728**	**7352**	**7034**	**5562**	**9.0%**	**73.3%**

na — not available.

(Note): Percentages in brackets denote an increase in reported releases.

Appendix 4 LIST OF ARET PARTICIPANTS

ALUMINIUM

Alcan Primary Metal Group
Michel Lalonde or François Ameye
Tel.: (514) 848-8026 Fax: (514) 848-8594
Michel.Lalonde/Maison@Alcan.com
Arvida Aluminium Smelter, QC
Beauharnois Aluminium Smelter, QC
Isle-Maligne Aluminium Smelter (CLOSED), Isle-Maligne, QC
Shawinigan Aluminium Smelter, QC
Vaudreuil Chemical Works, QC

CHEMICAL MANUFACTURING

Ashland Canada Inc.
Faisal Zekry (Plant Manager)
Tel.: (905) 823-1800 Fax: (905) 823-5293
fzekry@ashland.com
Manufacturing and Distribution Divisions, Mississauga, ON
David M. Kim (Process and Regulatory Engineer)
Tel.: (905) 855-4008 Fax: (905) 823-5293
DmKim@ashland.com

Basell Canada Inc.
Claude Audet (Chief - Security/Environment)
Tel.: (514) 449-8500 Fax: (514) 652-7042
claude.audet@basell.com
Montell Polyolefins, Varennes, QC
Joseph Bush
Tel.: (514) 449-8500 Fax: (514) 652-7042
joe.bush@basell.com

BASF Canada Limited
John Salchli (Ecology and Safety Engineer)
Tel.: (416) 674-2199 Fax: (416) 674-2940
salchlj@basf-corp.com
Brantford (CLOSED), Brantford, ON
P. Soulière
Sarnia (CLOSED), Sarnia, ON
J. Carter
Toronto, Toronto, ON
J. Clarke
Windsor, Windsor, ON
W. De Pompolo

Bayer Inc.
Walter D. Frais (Engineering Advisor)
Tel.: (519) 337-8251 Fax: (519) 339-7711
walter.frais.b@bayer.com
Sarnia, ON

Celanese Canada Inc.
Dr. Andy M. Day (Manager, Environment, Health & Safety)
Tel.: (780) 471-0323 Fax: (780) 471-0113
amday@celanese.com
Edmonton Plant, Edmonton, AB
Millhaven Site (Sold in 1999), Kingston, ON

Chinook Group Limited
Tel.: (416) 363-6045 Fax: (416) 363-6339
bpatel@chinookglobal.com
Sombra Plant, Sombra, ON
B.K. (Bob) Patel (Environmental Manager)
Tel.: (519) 892-3191 Fax: (519) 892-3417
bpatel@chinookglobal.com

Crompton Company/Cie
Ed Wilson
Tel.: (416) 724-3643 Fax: (416) 284-4316
wilsoed@cromtoncorp.com
Elmira Manufacturing Facility (Formerly a Uniroyal Facility), Elmira, ON
Tim Boose (Manager, Energy & Environmental Control)
Tel.: (514) 669-1671 Fax: (514) 669-3273
Upton Road Plant (Formerly a Witco facility), Scarborough, ON
West Hill Plant, West Hill, ON

Cytec Canada Inc.
Ken Milo (Environmental Coordinator)
Tel.: (905) 374-5812 Fax: (905) 374-5879
Ken_Milo@we.cytec.com
Niagara Falls, ON

Delmar Inc.
Pierre Plante (Vice-President)
Tel.: (514) 366-7950 Fax: (514) 366-5665
pplante@delmarchem.com
Lasalle Plant, Lasalle, QC
Catherine Tremblay (Health, Safety and Environment Coordinator)
Tel.: (514) 366-7950 Fax: (514) 366-5665
ctremblay@delmarchem.com

Dow Chemical Canada Inc.
Dave Shortt (Environmental Quality)
Tel.: (519) 339-5268 Fax: (519) 339-3417
dshortt@dow.com
Fort Saskatchewan Site, Fort Saskatchewan, AB
Ken Tsang (Environmental Services)
Tel.: (780) 998-8440 Fax: (780) 998-6786
kktsang@dow.com
Sarnia Site - Dow, Sarnia, ON
Jorma Salmikivi (Environmental Services)
Tel.: (519) 339-3344 Fax: (519) 339-4322
jsalmikivi@dow.com
Varennes Site, Varennes, QC
Raymond Paquin (Environmental Services)
Tel.: (450) 652-1024 Fax: (450) 652-2236
rppaquin@dow.com
West Coast Distribution Centre, North Vancouver, BC
Ken Tsang (Environmental Services)
Tel.: (403) 998-8440 Fax: (403) 998-6786
kktsang@dow.com

Dupont Canada Inc.
Jennifer Hooper (Manager, Environmental Affairs)
Tel.: (613) 548-5099 Fax: (613) 548-5297
jtaylo1@kings.email.dupont.com
Ajax Manufacturing Operation, Ajax, ON
Paul Foster
Tel.: (905) 619-6004
Maitland Manufacturing Operation, Maitland, ON
Steve Lauridsen
Tel.: (613) 348-3611

Durez Canada
Tim Currah (Environmental Manager)
Tel.: (905) 871-3206 Fax: (905) 871-7979
tcurrah@durez.com
Fort Erie, ON

Dynea Canada Ltd.
May O'Brien (Corporate Engineer, Environmental, Health & Safety)
Tel.: (905) 712-0900 Fax: (905) 712-0901
may.o'brien@dynea.com
Ste-Thérèse Facility (Formerly a Neste Resins Canada facility), Ste-Thérèse, QC

Eka Chemical Canada Inc.
Jean Morency (President)
Tel.: (450) 377-1131 Fax: (450) 377-1593
jmorency@ekachem.com
Magog Site, Magog, QC
Régis Laberge (Quality Coordinator)
Tel.: (819) 843-8772 Fax: (819) 843-3269
rlaberge@ekachem.com
Valleyfield Site, Valleyfield, QC
France C. Vachon (Supervisor, Laboratory & Environment)
Tel.: (450) 377-1131 Fax: (450) 377-1593
fvachon@ekachem.com

Elf Atochem Canada Inc.
J.W. Hilborn (President, Performance Chemicals & Polymers Division)
Tel.: (905) 827-9841 Fax: (905) 827-7913
Distribution Centre, Oakville, ON

Ethyl Canada Inc.
Corunna Production Facility, Corunna, ON
Stuart Almost (Manager, Environment, Health & Safety)
Tel.: (519) 481-1615 Fax.: (519) 862-4035
stuart_almost@ethyl.com

H.L. Blachford Ltd.
Derek Wisdom (Regulatory Affairs)
Tel.: (514) 938-9775 Fax: (514) 938-8595
dwisdom@hlb.blachford.ca
Montréal, QC

Hercules Canada Inc.
Victor Wong
Tel.: (905) 632-7861 Fax: (905) 333-3718
vwong@herc.com
Burlington, ON

Huntsman Corporation Canada Inc.
Jeannette Hull (Environmental Coordinator)
Tel.: (519) 824-3280 Fax: (519) 824-0755
jeannete_hull@Huntsman.com
Guelph Plant, Guelph, ON

Hydro Agri Canada
Iyasu Burru (Manager, Environmental Affairs)
Tel.: (613) 348-3681 Fax: (613) 348-3043
Hydro Agri Maitland, Maitland, ON

Kronos Canada, Inc.
Gabriel Dionne
Tel.: (450) 929-5064 Fax: (450) 929-5108
gabriel.dionne@nli-usa.com
Varennes, QC

Lubrizol Canada Limited
Stavros Roussakis (Technology Manager)
Tel.: (905) 358-5778 Fax: (905) 358-0253
jsr@lubrizol.com
Niagara Falls, Niagara Falls, ON

Methanex Corporation
Clarence Korpan (Responsible Care & Environmental Coordinator)
Tel.: (403) 528-1369 Fax: (403) 529-9171
ckorpan@methanex.com
Kitimat Methanol Plant, Kitimat, BC
Medicine Hat Methanol Plant, Medicine Hat, AB

Nacan Products Limited
Doug Garbutt (Corporate Vice-President, Environmental Affairs)
Tel.: (905) 454-4466 Fax: (905) 454-4918
doug.garbutt@nstarch.com
Boucherville Plant, Boucherville, QC
Judy Grah (Safety, Health & Environment Supervisor)
Tel.: (905) 454-5492 Fax: (905) 796-6531
judy.grah@nstarch.com
Vancouver Plant, Surrey, BC
Ried Robinson (Site Manager)
Tel.: (604) 596-1566 Fax: (604) 596-0441

Nexen Chemicals Canada
David Guss (Responsible Care Manager)
Tel.: (403) 699-5506 Fax: (403) 699-5735
david_guss@nexeninc.com
Amherstburg (Formerly a CXY Chemicals Canada facility), Amherstburg, ON
Doug Parker
Tel.: (519) 736-6445 Fax: (519) 736-7103
Beauharnois (Formerly a CXY Chemicals Canada facility), Beauharnois, QC
Lyne Lamontagne
Tel.: (514) 225-3260 Fax: (514) 225-3328
Brandon (Formerly a CXY Chemicals Canada facility), Brandon, MB
Bruce Bunting
Tel.: (204) 725-5304 Fax: (204) 726-5748
Bruderheim Facility (Formerly a CXY Chemicals Canada facility), Bruderheim, AB
Duane Legge
Tel.: (780) 796-6129 Fax: (780) 796-3838
Nanaimo (Formerly a CXY Chemicals Canada facility), Nanaimo, BC
Ali Sanjari
Tel.: (250) 722-2212 Fax: (604) 722-3331
North Vancouver (Formerly a CXY Chemicals Canada facility), North Vancouver, BC
Phil Lum
Tel.: (604) 924-2869 Fax: (604) 929-7610

NOVA Chemicals Ltd.
John Thompson Advisor Occupational Health &
Tel.: (519) 332-1212 Fax: (519) 339-7300
thompsje@novachem.com
Corunna Site, Corunna, ON
Jerry Kuhwald
Tel.: (519) 862-2911 Fax: (519) 481-2749
kuhwalj@novachem.com
Joffre Manufacturing Site, Red Deer, AB
Jim Dixon
Tel.: (403) 314-7905 Fax: (403) 314-8993
dixonj@novachem.com
Nova Chemicals Research and Technology Corp., Calgary, AB
Randi Raynard
Tel.: (403) 250-4549 Fax: (403) 329-1320
raynarr@novachem.com
Saint Clair River Site, Corunna, ON
Marcia Kennedy
Tel.: (519) 862-1445 Fax: (519) 481-3366
Sarnia site - NOVA, Sarnia, ON
Bob Huggett
Tel.: (519) 332-1212 Fax: (519) 339-7300
huggetb@novachem.com

ONDEO Nalco Canada Inc. (formerly Nalco Canada Inc.)
Joanne Bortolotto (Corporate Environmental Specialist)
Tel.: (905) 333-6122 Fax: (905) 333-6197
jbortolotto@ondeo-nalco.com
Burlington Manufacturing Site (Formerly a Nalco Canada Inc. facility), Burlington, ON
Tel.: (905) 333-6122 Fax: (905) 333-6197

Ondeo Nalco Energy Services Canada Inc.
Mark Gross (Manufacturing Manager)
Tel.: (780) 955-6904 Fax: (780) 955-6922
magross@ondeo-nes.com
Chemical Manufacturing Plant, Nisku, AB

Pétromont Inc.
Suzanne Francoeur
Tel.: (514) 650-8528 Fax: (450) 652-7654
francoeurs@petromont.qc.ca
East Montreal Site, Montréal, QC
Suzanne Francoeur (Coordinator, Environment)
Tel.: (514) 650-8528 Fax: (450) 652-7654
francoeurs@petromont.qc.ca
Varennes Site, Varennes, QC
Suzanne Francoeur
Tel.: (514) 650-8528 Fax: (450) 652-7654
francoeurs@petromont.qc.ca

PolyOne Canada (formerly Synergistics Inc.)
Pierre-André Gignac (Engineer and Manager, Environment, Health & Safety Manager)
Tel.: (450) 454-3931 Fax: (450) 454-5800
pierre-andre.gignac@polyone.com

PPG Canada Inc.
Denis Faucher
Tel.: (450) 429-4641 Fax: (450) 429-3499
Beauharnois Plant, Beauharnois, QC
Christian Pelletier
Tel.: (450) 429-4641 Fax: (450) 429-3499

Rhodia Canada Inc.
Gillian Seagrave (Manager Health, Safety & Environment)
Tel.: (905) 270-5534 Fax: (905) 270-5816
gillian.seagrave@us.rhodia.com
Mississauga Plant, Mississauga, ON
Theresa Crerar (Staff Training Coordinator)
Tel.: (905) 270-5534 Fax: (905) 270-5816
theresa.crerar@us.rhodia.com
St. Catharines Plant, St. Catharines, ON
Valleyfield Plant, Valleyfield, QC
Tel.: (450) 373-6164

Rohm and Haas Canada Inc.
Tom Vandemoortele (Environmental Coordinator)
Tel.: (416) 284-4711 Fax: (416) 284-7779
tvandemoortele@rohmhaas.com
West Hill Plant, West Hill, ON

Shell Chemicals Canada Limited
David Ho (Health, Safety & Environment Technical Analyst)
Tel.: (403) 691-4532 Fax: (403) 691-3331
david.ho@shellchem.ca
Scotford Plant, Fort Saskatchewan, AB
Karl Bionski (Environmental Coordinator)
Tel.: (403) 992-3502

Shrader Canada Ltd.
Lurdes Martins (Technical Services Manager)
Tel.: (905) 847-0222 Fax: (905) 847-5404
Shrader Canada Ltd., Oakville, ON

Solutia Canada Inc.
Myriam Paquin
Tel.: (514) 366-4855 Fax: (514) 366-9933
mmpaqu@solutia.com
LaSalle Plant, LaSalle, QC
Myriam Paquin
Tel.: (514) 366-4855 Fax: (514) 366-9933
mmpaqu@solutia.com

Stepan Canada Inc.
Linda Tucker (Environment & Safety Manager)
Tel.: (705) 326-7329 Fax: (705) 326-4523
ltucker@stepan.com
Surfactant Manufacturing Plant, Longford Mills, ON

Sterling Pulp Chemicals, Ltd.
Georges Roy
Tel.: (819) 986-1135 Fax: (819) 986-2735
All Canadian Facilities, Buckingham, QC; Thunder Bay, ON; Grande Prairie, AB; Vancouver, BC, Saskatoon Chemicals Ltd., Saskatoon, SK

Union Carbide Canada Inc.
Dave Shortt (Environmental Quality)
Tel.: (519) 339-5268 Fax: (519) 339-3417
dshortt@dow.com
Prentiss Plant, Red Deer, AB
Darren Lysak (Health, Safety & Environment Engineer)
Tel.: (403) 885-7000 Fax: (403) 885-7270

VFT Inc.
Gord Gilmet (Technical Manager)
Tel.: (905) 548-5524 Fax: (905) 544-4942
GGilmet@VFTInc.com
Hamilton Plant, Hamilton, ON

Appendix 4 LIST OF ARET PARTICIPANTS

CHEMICAL SPECIALTIES MANUFACTURING

3M
W. Ian Service (Senior Specialist)
Tel.: (519) 452-6166 Fax: (519) 452-6015
iwservice@mmm.com
London Facility, London, ON
Perth Plants, Perth, ON

Canada Colors & Chemicals Limited
Philip Yu (Director Responsible for Distribution)
Tel.: (416) 449-2600 Fax: (416) 449-1651
pyu@canadacolors.com
Brampton, Brampton, ON
Colborne, Colborne, ON
Ville St-Laurent, Montréal, QC
Vancouver, Delta, BC

Crown Cork & Seal Canada Inc.
James (Jim) Armstrong (Regional Manager, Environmental, Health & Safety)
Tel.: (905) 660-2112 Fax: (905) 669-5059
james_armstrong@crown.crowncork.com
Plant 233 (Concord), Concord, ON
Plant 234 (Montréal), Montréal, QC
Plant 244 (Concord), Concord, ON
Plant 246 (St-Laurent), Ville St-Laurent, QC
Plant 250 (Winnipeg), Winnipeg, MB
Plant 257 (Chatham), Chatham, ON

Reckitt & Benckiser Canada
Anna Olasz (Quality Assurance Manager)
Tel.: (416) 201-7471 Fax: (416) 255-5150
Reckitt & Colman Canada, Toronto, ON
Anna Olacz (Director of Quality Assurance)
Tel.: (416) 201-7471 Fax: (416) 255-5150

Recochem Inc.
Marina Kovrig (Director, Communications & Regional Affairs)
Tel.: (905) 791-1788 Fax: (905) 791-7140
Napierville Refineries, Napierville, QC
Ralph Carmichael (Vice-President, International Sales)
Tel.: (514) 341-3550 Fax: (514) 341-6553

Zep Manufacturing of Canada
Yves Potier (Regional Manager)
Tel.: (514) 631-9041 Fax: (514) 631-8049
Zep Manufacturing of Canada, Dorval, QC

ELECTRICAL UTILITIES

Hydro Québec
Benoit Vanier (Advisor, Environmental Performance)
Tel.: (514) 289-2211 Fax: (514) 289-4977
vanier.benoit@hydro.qc.ca
All Hydro Québec Operations, QC

Nova Scotia Power, Inc.
Aaron MacIntyre (Manager, Environmental Policy & Programs)
Tel.: (902) 428-6834 Fax: (902) 428-6749
NSPI Generating, Transmission and Distribution Facilities, NS

Ontario Power Generation Inc.
Helen Howes (Director, Corporate Environment)
Tel.: (416) 592-1658 Fax: (416) 592-7097
helen.howes@ontariopowergeneration.com
Generating Operations, Multiple, ON
Andy Hoffer (Environment)
Tel.: (416) 592-6399 Fax: (416) 592-7097
andy.hoffer@ontariopowergeneration.com

TransAlta Utilities Corporation
Michael Leaist (Project Manager)
Tel.: (403) 267-4996 Fax: (403) 267-7372
mike_leaist@transalta.com

Wabamun, Keephills and Sundance Thermal Generating Plants, Wabamun, Duffield, AB
Paije McGrath (Sustainable Development)
Tel.: (403) 267-2527 Fax: (403) 267-7372
paije_mcgrath@transalta.com

GOVERNMENT

Natural Resources Canada
Richard Arseneault (Manager, Office of Environmental Affairs)
Tel.: (613) 995-3420 Fax: (613) 995-5719

NRCan Laboratories, Ottawa, ON
Nicholas Radzichowsky
Tel.: (613) 996-9192 Fax: (613) 995-5719

MINING AND SMELTING

Aur Resources
Daniel Talbot
Tel.: (819) 736-3551 Fax: (819) 736-2348
daniel_talbot@aurresources.com
Louvicourt Mine, Val-d'or, QC
Yanick Létourneau (Environmental Coordinator)
Tel.: (819) 736-3551 Fax: (819) 736-2348
yanick_letourneau@aurresources.com

Barrick Gold Corporation
John Martschuk (Director, Environmental Services)
Tel.: (819) 757-3691 Fax: (819) 757-2428
Holt McDermott & Bousquet Mines, ON,QC

BHP Billiton Metals Canada Inc. (Formerly Billiton Metals Ca)
Elliot Lake, Rio Kemptville Tin and Poirier Mines (formerly Rio Algom Ltd. Facilities), Elliot Lake, ON, Yarmouth, NS, QC, ON, NS, QC

Selbaie Mines, Villebois, QC
Alain Lebel (Environmental Coordinator)
Tel.: (819) 756-2491 Fax: (819) 756-2684
bmciser@lino.com
Boliden Westmin (Canada) Limited
Dr. David Mchaina (Manager, Environmental Affairs)
Tel.: (416) 364-2727 Fax: (416) 364-5484
dmchaina@boliden-westmin.com

Myra Falls Operation, Vancouver Island, BC
Steve Januszewski (Environmental Coordinator)
Tel.: (250) 287-9271 Fax: (250) 286-6171

Premier Gold Operation, Stewart, BC
Linda Zurkirchen (Environmental Coordinator)
Tel.: (250) 636-2206

Cambior Inc.
Serge Vézina
Tel.: (450) 677-0040 Fax: (450) 677-2040
serge_vezina@cambior.com
Bouchard-Hébert Mine (Sold to Breakwater Resources), Destor, QC
Lucienne Anctil
Tel.: (819) 637-2075 Fax: (819) 637-2302
Doyon Mine, Preissac, QC
Suzie Bélanger
Tel.: (819) 759-3611
Géant Dormant Mine, Amos, QC
Caroline Dufresne
Tel.: (819) 759-3190 Fax: (819) 732-5019
Gonzague-Langlois Mine, , QC
Tel.: (819) 755-5550 Fax: (819) 755-5570
Mouska Mine, Cadillac, QC
Gilles Galarneau
Tel.: (819) 759-3664 Fax: (819) 759-3665
Yvan Vezina Plant - CLOSED, Destor, QC

Echo Bay Mines Ltd.
Mr. Hugh Ducasse (Manager, of Loss Control & Environmental Affairs)
Tel.: (780) 890-8779 Fax: (780) 890-8814
hducasse@lupin.echobay.com
Lupin Operation, Lupin, NT
David Hohnstein (Environmental Coordinator)
Tel.: (780) 890-8794 Fax: (780) 890-8814
dhohnstein@lupin.echobay.com

Falconbridge Limited
Robert Telewiak (V.P. - Environment)
Tel.: (416) 956-5700 Fax: (416) 956-5757
rtel.ewiak@falconbridge.com
Kidd Metallurgical Division, Timmins, ON
Tony Fontana (Supervisor - Environment, Health & Safety)
Tel.: (705) 235-8121 Fax: (705) 235-7386
tfontana@kiddmet.falconbridge.com
Kidd Mining Division, Timmins, ON
Linda Byron-Fortin (Environmental Coordinator)
Tel.: (705) 267-8789 Fax: (70 5) 267-8884
lbyron-fortin@falconbridge.com
Raglan Project
Bernard Swarbrick
Tel.: (819) 762-7800 Fax: (819) 764-7801
bernard_swarbrick@falconbridge.com
Sudbury Operations, Falconbridge, ON
Jurgen Storbeck (Environment & Health Services)
Tel.: (705) 693-2761 Fax: (705) 699-3660
jstorbeck@sudbury.falconbridge.com

Highland Valley Copper
R.A. Hamaguchi (Senior Environment Engineer)
Tel.: (250) 523-3237 Fax: (250) 523-3219
rhamaguchi@hvcopper.com
Logan Lake, BC

Homestake Canada Inc.
Vernon Betts- Manager (Environment, Health & Safety)
Tel.: (604) 684-2345 Fax: (604) 684-9831
vbetts@homestake.com
Ontario and BC Mines; Marathon, ON; Stewart, Penticton, BC; ON; BC

Hudson Bay Mining & Smelting Company Ltd.
W.W. Fraser (Director, Environment)
Tel.: (204) 687-2171 Fax: (204) 687-4149
wayne.fraser@hbms.ca
Flin Flon Smelter Complex, Flin Flon, MB
Joel Nilsen (Environmental Engineer)
Tel.: (204) 687-2074 Fax: (20) 468-7419
joel.nilsen@hbms.ca

Inco Limited
W. Charles Ferguson (Vice-President, Environment, Health & Safety)
Tel.: (416) 361-7860 Fax: (416) 361-7864
Copper Cliff and Thompson, Copper Cliff, ON; Thompson, MB; ON; MB

INMET Mining Corporation
Matthew Bliss (Environmental Coordinator)
Tel.: (807) 821-3398 Fax: (807) 824-3232
Winston Lake Mine, Schreiber, ON

Kinross Gold Corporation
Ted Roman
Tel.: (705) 567-5208
tedroman@ntl.aibn.com
Macassa Mine
Ted Roman
Tel.: (705) 567-5208

Newmont Canada Ltd (formerly Battle Mountain Canada Ltd)
Walter Sencza (Environmental Director)
Tel.: (807) 238-2108 Fax: (807) 238-2044
wsencza@ncl.newmont.com
Golden Giant Mine (Formerly a Battle Mountain Canada facility), Marathon, ON
László Götz (Environmental Engineer)
Tel.: (807) 238-1121 Fax: (807) 238-2066
lgotz@ncl.newmont.com
Holloway Mine (Formerly a Battle Mountain Canada facility), Matheson, ON
Carlos Eyzaguirre (Senior Metallurgist)
Tel.: (705) 567-4862 Fax: (705) 567-4863
Silidor Mine CLOSED (Formerly a Battle Mountain Canada facility), Rouyn Noranda, QC
François Petrucci (Chief Mine Engineer)
Tel.: (705) 567-4862 Fax: (705) 567-4863
fpettrucci@ncl.newmont.com

Noranda Inc.
Leonard Surges (Manager, Environment)
Tel.: (416) 982-6900 Fax: (416) 982-3543
surgesl@noranda.com
Brunswick Mining Division, Bathurst, NB
Robert Butler
Tel.: (506) 547-3099
Brunswick Smelting Division, Belledune, NB
Paul Deveau
Tel.: (506) 522-7005
Canadian Electrolytic Zinc, Valleyfield, QC
Daniel Daoust
Tel.: (514) 373-9144
CCR Refinery, Montreal East, QC
Jacques Pageau
Tel.: (514) 645-2311
CLOSED Sites: Boss, Bell, Mattabi, Brenda, Geco, Belledune Fert., Gaspé Mines, Murdochville, QC
Victor Chapados
Tel.: (418) 784-4370
General Smelting of Canada, Lachine, QC
Daniel Rompré
Tel.: (514) 637-3591
Heath Steele Division, Miramichi, NB
Michael Patterson
Tel.: (506) 623-4724
Horne Smelter, Rouyn-Noranda, QC
Daniel Cossette
Tel.: (819) 762-7764
Matagami Division, Matagami, QC
Denis Hamel
Tel.: (819) 739-2511

Placer Dome (CLA) Limited
K.D. Ferguson (Manager, Environmental Affairs)
Tel.: (604) 661-1916 Fax: (604) 661-3785
Keith_Ferguson@placerdome.com
All Placer Dome Mines, Balmerton, ON; Timmins (2) ON; Pickle Lake, ON; Houston, BC; ON; BC

Sherritt International Corporation
J. Hennig (Superintendent, Environmental Services)
Tel.: (403) 992-7118 Fax: (403) 992-7744
Jhennig@sherritt-intl.com
Fort Saskatchewan, AB
Kent Brandt
Tel.: (403) 992-7423 Fax: (403) 992-7744
kbrandt@sherritt-intl.com

Teck Cominco Metals Ltd. (Formely Cominco Ltd.)
Walter J. Kuit
Tel.: (604) 685-3011 Fax: (604) 640-5387
walter.kuit@teckcominco.com
Teck Cominco Ltd. (all facilities), Trail, BC; Kimberly, BC; Polaris, NT; BC; NT

The Cobalt Refinery Company
J. Hennig (Superintendent of Environmental Services)
Tel.: (403) 992-7118 Fax: (403) 992-7744
Jhennig@sherritt-intl.com
Corefco Refinery, Fort Saskatchewan, AB
Kent Brandt
Tel.: (403) 992-7423 Fax: (403) 992-7744
kbrandt@sherritt-intl.com

OIL, GAS AND PETROLEUM PRODUCTS

Imperial Oil Limited
R.G. O'Farrell, (Public Affairs Department)
Tel.: (416) 968-5506 Fax: (416) 968-4272
Manufacturing and Oil Production and Refining Operations; Sarnia, Nanticoke, ON; Dartmouth, NS; Edmonton, AB; ON; NS; AB
R.P. Athaide (Safety, Health & Environment)
Tel.: (416) 968-4037 Fax: (416) 968-4147

Petro-Canada
Andrea Walter (Environmental Advisor)
Tel.: (403) 296-3793 Fax: (403) 296-6720
awalter@petro-canada.ca
Downstream Petroleum Operations, Edmonton, AB; Oakville, ON; Montréal, QC; Mississauga, ON; Burrard, BC; AB; ON; QC; BC

Safety-Kleen Canada Inc.
Frank Wagner (Environmental Compliance Manager)
Tel.: (519) 648-2544 Fax: (519) 648-2033
fwagner@safety-kleen.com
Breslau Re-Refinery, Breslau, ON

Shell Canada Limited
Linton L. Kulak (Director, Health, Safety & Environment)
Tel.: (403) 691-2091 Fax: (403) 691-3321
Petroleum Operations; Montréal, Sarnia, Ft. Sask., Brockville, Burnaby, 13 others, AB; ON; QC; BC
Murray Jones (Advisor, Sustainable Development)
Tel.: (403) 691-4080 Fax: (403) 691-3321

Suncor Energy Inc.
Oil Sands Group, Fort McMurray, AB
Sheila Chernys
Tel.: (780) 743-6998 Fax: (780) 791-8339
schernys@suncor.com

Sunoco Group
Sarnia Refinery, Sarnia, ON
Todd Murray (Environmental Specialist)
Tel.: (519) 383-3658 Fax: (519) 337-9248
toddmurray@suncor.com

Syncrude Canada Ltd.
Beverley Daries (Manager, Environmental Services)
Tel.: (780) 790-5385 Fax: (780) 790-4105
davies.beve@syncrude.com
Mildred Lake Site, Fort McMurray, AB
Gail Buchanan (Staff Engineer)
Tel.: (780) 790-8363 Fax: (780) 790-4105
buchanan.gail@syncrude.com

Ultramar Ltd.
André Carbonneau, (Director, Environment, Productivity & Networks)
Tel: (418) 835-8110 Fax: (418) 835-8065
St-Romuald Refinery, St-Romuald, QC

Appendix 4 LIST OF ARET PARTICIPANTS

OTHER MANUFACTURING

Advanced Fence & Wire Manufacturing Co. Ltd.
Frost Fence & Wire Products Ltd., Hamilton, ON
Allan G. Payne (Process Control Supervisor)
Tel.: (905) 528-8895 Fax: (905) 577-4509

Air Canada
Don McLeay
Tel.: (514) 422-6824 Fax: (514) 422-7606
Aircraft Paint Stripping Operations
Myrka Manzo Manager, Environmental Systems
Tel.: (514) 422-7923 Fax: (514) 422-7606
myrka.manzo@aircanada.ca

Benjamin Moore & Co., Limited
Tom Aroella (Environmental Affairs Administrator)
Tel.: (416) 766-1173 Fax: (416) 766-9677
Montréal Facility, Montréal, QC
Toronto Facility, Toronto, ON
Vancouver Facility, Aldergrove, BC

Bridgestone/Firestone Canada Inc.
Jean-Marc Picard (External Services Manager)
Tel.: (514) 756-1061 Fax: (450) 756-1826
Joliette Plant, Joliette, QC
Pierre Bayeur
Tel.: (450) 756-1061 Fax: (514) 756-1826

CCL Container
Mary Roy
Tel.: (416) 756-8536 Fax: (416) 756-8555
CCL Container Aerosol Division, Penetanguishene, ON
Frank McAllister (Vice-President, Operations)
Tel.: (705) 549-7471 Fax: (705) 549-7961
FMcAllister@cclcontainer.com

DaimlerChrysler Canada Inc.
Paul Hansen (Manager, Environmental Affairs)
Tel.: (519) 973-2864 Fax: (519) 973-2613
PLH2@daimlerchrysler.com
Assembly, Trim, Casting & Distribution Plants, Windsor, Brampton, Ajax, Etobicoke, ON

Elastocraft Ltd.
Wayne Cox (Vice-President, Manufacturing)
Tel.: (905) 678-1466 Fax: (905) 673-1900
Foam Manufacturing Operation, Mississauga, ON

Flying Colours Corp.
Richard Elliott
Tel.: (705) 742-4688 Fax: (705) 742-9394
Aircraft Refurbishing Operation, Peterborough, ON

Gates Canada Limited
Gordon Howarth (Environmental Specialist)
Tel.: (519) 759-4141 Fax: (519) 752-6773
gh4643@gates.com
Belt Processing Plant, Brantford, ON
Hose Processing Plant, Brantford, ON

General Electric Canada Inc.
Dr. H.R. Hosein
Tel.: (905) 858-5676 Fax: (905) 858-5276
GE Industrial Control Systems, Peterborough, ON
Elaine Cowling
Tel.: (705) 748-7661 Fax: (705) 748-7134
elaine.cowling@indsys.ge.com
GE Lighting, Oakville, ON
Peter Formosa
Tel.: (905) 849-2028 Fax: (905) 849-2094
peter.formosa@lighting.ge.com
GE Meters, Québec, QC
Claude Losier (Environment, Health & Safety Coordinator)
Tel.: (418) 682-8512 Fax: (418) 682-8550
claude.losier@indsys.ge.com
GE Plastics Canada, Cobourg, ON
Abdul Deffie (Manager, Environment, Health & Safety)
Tel.: (905) 373-3987 Fax: (905) 373-3922
abdul.deffie@gep.ge.com
Nuclear Products Department Peterborough, ON
John Mills
Tel.: (705) 748-7105 Fax: (705) 748-7344
john.mills@cdnnuc.ge.com

Husky Injection Molding Systems Ltd.
Valerie Chort (Director, Environment)
Tel.: (905) 951-5000 Fax: (905) 857-4691
Manufacturing Operations, Bolton, ON
Kristine MacPhee
Tel.: (905) 951-5000 Fax: (905) 951-5029

IBM Canada Ltd.
Yves Veilleux (Environmental Affairs Manager)
Tel.: (450) 534-6376 Fax: (450) 534-6421
yveilleu@ca.ibm.com
Bromont Technology Plant, Bromont, QC
Dany Gosselin (Coordinator, Chemical Products)
Tel.: (450) 534-6658 Fax: (450) 534-6421
drgossel@ca.ibm.com

ICI Canada Inc.
Glenn A. Wood (Safety, Health & Environment Assurances Manager)
Tel.: (416) 229-8255 Fax: (416) 229-8483
Cornwall Chemicals Ltd. (CLOSED), Cornwall, ON
ICI Explosives, Brownsburg, QC
ICI Forest Products (CLOSED), Cornwall, ON,

Kodak Canada Inc.
Wendy Paterson (Environmental Specialist)
Tel.: (416) 766-8233 Fax: (416) 760-4474
728071n@knotes.kodak.com
Kodak Canada Inc., Toronto, ON

Michelin North America (Canada) Inc.
Glen Hall (Environmental Manager)
Tel.: (902) 753-1823 Fax: (902) 396-2184
glen.hall@ca.michelin.com
Bridgewater Facility, Bridgewater, NS
Granton Facility, New Glasgow, NS
Waterville Facility, Kentville, NS

Novopharm Limited
Larry Tran (Environmental Specialist)
Tel.: (416) 291-8888 Fax: (416) 291-1148
Plant 101 (Toronto), Toronto, ON
Plant 102 (Toronto), Toronto, ON
Plant 106 (Markham), Markham, ON
Plant 107 (Markham), Markham, ON
Plant 112 (Toronto), Toronto, ON
Plant 118 (Stouffville), Stouffville, ON

Plastmo Ltd.
Eugene Uyeno (Technical Assistant)
Tel.: (905) 793-9462 Fax: (905) 793-3997
e_uyeno@plastmoltd.on.ca
Brampton, ON

Saint John Shipbuilding Limited
Alan Phillips (Manager, Health & Safety)
Tel.: (506) 633-4444 Fax: (506) 632-5915

Spar Aviation Services
Bernie McCarthy
Tel.: (403) 890-6300
Edmonton Facility

Suzorite Mica Products Inc.
Joseph Antonacci (Technical Director)
Tel.: (450) 655-2450 Fax: (450) 655-9942
jantonacci@suzorite.com
Mica production facility, Boucherville, QC

Vitafoam Products Canada Ltd.
Darryl Vukov (Quality Assurance Manager)
Tel.: (416) 630-6633 Fax: (416) 630-9921
Toronto, Calgary and Winnipeg Operations; Toronto, Calgary, Winnipeg, ON, AB, MB

Waltec Plastics
Bob Lamoureux (Materials Manager)
Tel.: (705) 526-7801 Fax: (705) 526-3521
Waltec Plastics - CLOSED, Midland, ON
Bob Lamoureux (Materials Manager)
Tel.: (705) 526-7801 Fax: (705) 526-3521

Wyeth-Ayerst Canada Inc.
Marc Leblanc (Environmental Specialist)
Tel: (514) 748-3752 Fax: (514) 744-5896
leblanma@wyeth.com
Pharmaceutical Manufacturing Plant, St-Laurent, QC

FOREST PRODUCTS

Abitibi-Consolidated Inc.
Catherine Lévis (Corporate Environmental Services)
Tel.: (514) 394-2338 Fax: (514) 394-2332
cathy_levis@abicon.com
Alma Division, Alma, QC
Denis Moreau (Environment Coordinator)
Tel.: (418) 668-9400 Fax: (418) 662-3849
denis_moreau@abicon.com
Beaupré Paper Mill, Beaupré, QC
Lyne Tremblay (Environment Coordinator)
Tel.: (418) 827-6476 Fax: (418) 827-3918
lyne_tremblay@abicon.com
Belgo Division, Shawinigan, QC
Yvon Thibault
Tel.: (819) 536-8230 Fax: (819) 536-8255
yvon_thibault@abicon.com
Fort Frances Division, Fort Frances, ON
Carolyn Winik (Environmental/Process Engineer)
Tel.: (807) 274-5311 Fax: (807) 274-8286
carolyn_winik@abicon.com
Fort William Division, Thunder Bay, ON
Kim Brown (Environmental Supervisor)
Tel.: (807) 625-7349 Fax: (807) 623-7555
kbrown@abicon.com
Iroquois Falls Division, Iroquois Falls, ON
Ron Blais (Intermediate Lab Technician)
Tel.: (705) 258-3245 Fax: (705) 258-4334
Kénogami Paper Mill, Jonquière, QC
Annie Bourque (Environmental Coordinator)
Tel.: (418) 695-9130 Fax: (418) 542-7900
annie_bourque@abicon.com
Kenora Division, Kenora, ON
Douglas Raoul (Environmental Control Superintendent)
Tel.: (807) 467-3167 Fax: (807) 467-3176
doug_raoul@abicon.com
La Compagnie Gaspésia Ltd. (SOLD), Chandler, QC
Normand Langlais (Coordinator, Environment & Energy)
Tel.: (418) 689-5149 Fax: (418) 689-5771
nlanglais@abicon.com
Laurentide Division, Grand-Mère, QC
Nicole Bédard (Environmental Programs)
Tel.: (819) 538-3341 Fax: (819) 533-6580
nicole_bedard@abicon.com
Port Alfred Division, La Baie, QC
Caroline Lachance (Supervisor, Environment)
Tel.: (418) 544-9705 Fax: (418) 544-8453
caroline_lachance@abicon.com
Stephenville Division, Stephenville, NF
Clyde Duffy (Environmental Coordinator)
Tel.: (709) 643-7524 Fax: (709) 643-3780
clyde_duffy@abicon.com
Wayagamack Division (SOLD), Wayagamack, QC
Alain Bergeron (Supervisor, Environment)
Tel.: (819) 373-9230 Fax: (819) 373-9250
abergeron@abicon.com

Bowater Pulp and Paper Canada Inc.
Brian Mooney (Director, Environment)
Tel.: (807) 475-2526 Fax: (807) 475-2905
mooneyb@bowater.com
Bowater Mersey Paper Company Ltd., Liverpool, NS
Brian Mooney (Director, Environment)
Tel.: (807) 475-2526
mooneyb@bowater.com
Dalhousie Operations, Dalhousie, NB
Lester Burke (Environment)
Tel.: (506) 684-9311 Fax: (506) 684-5924
burkel@bowater.com
Gatineau Operations, Gatineau, QC
Mario Courtemanche
Tel.: (819) 643-7200 Fax: (819) 643-7297
courtemanchem@bowater.com
Gold River Operations (CLOSED) Gold River, BC
Phil Lum (Environmental Affairs Superintendent)
Tel.: (604) 283-7941 Fax: (604) 283-7998
plum@avenor.com
Thunder Bay Operations, Thunder Bay, ON
Don Murry (Environmental Affairs Superintendent)
Tel.: (807) 475-2131 Fax: (807) 475-4192
waltonc@bowater.com

Canadian Forest Products Ltd.
Howe Sound Pulp & Paper Limited Partnership, Port Mellon, BC
Siew Sim (Environmental Technologist)
Tel.: (604) 884-2763 Fax: (604) 884-2178
ssim@mail.canfor.ca
Prince George Pulp & Paper Mills, Prince George, BC
Doug Sigfusson
Tel.: (250) 561-3623 Fax: (250) 561-3692
dsigfusson@mail.canfor.ca

Cariboo Pulp and Paper Company
R.J. Salmons (Technical Manager)
Tel.: (250) 992-0216 Fax: (250) 991-0709
Quesnel Kraft Pulp Mill, Quesnel, BC
Wayne Strang (Environmental Supervisor)
Tel.: (250) 992-0208 Fax: (250) 991-0709
wayne_strang@caribooopulp.com

Cascades Cabano Inc.
Réal Lagacé, (Responsible for the Environment)
Tel.: (418) 854-2803 Fax: (418) 854-3942
Cascades Cabano Papers, Cabano, QC
Réal Lagacé, (Responsible for the Environment)
Tel.: (418) 854-2803 Fax: (418) 854-3942

Cascades Groupe Papiers Fins Inc.
Division Fibres Breakey, Breakeyville, QC
Marie-Josée Neault
Tel.: (418) 832-6115 Fax: (418) 832-5598

Cascades Inc.
Cascades Plastics, Kingsey Falls, QC
Richard Cloutier
Tel.: (819) 363-5708 Fax: (819) 363-5755
Kingsey Falls Pulp & Paper, Kingsey Falls, QC
Stéphane Bertrand (Engineering Trainee)
Tel.: (819) 363-5708 Fax: (819) 363-5755

Cascades Lupel Inc.
Richard Laramée (Superintendant, Production)
Tel.: (819) 695-8007 Fax: (819) 373-4379
Cap-de-la-Madeleine, QC

Casco Impregnated Papers, Inc.
Tim Merkley (Environmental Coordinator)
Tel.: (905) 372-1896 Fax: (905) 372-1355
tim.merkley@cob.cascoprod.com
Cobourg Plant, Cobourg, ON

Désencrage CMD
Conrad Boissonnault
Tel.: (819) 379-4079 Fax: (819) 371-9193

Domtar Inc.
Guy Boucher(Vice-President, Environment)
Tel.: (514) 848-5176 Fax: (514) 848-6558
guy.boucher@domtar.com
Cornwall Facility, Cornwall, ON
Raman Nayar
Tel.: (514) 848-5273
Domtar Vancouver Mills, Delta, BC
Peter Deutsch (Environmental Engineer)
Tel.: (604) 527-2573 Fax: (604) 527-2568
peter.deutsch@domtar.com
Espanola Division, Eddy Specialty Papers, Espanola,
Douglas Craig (Environmental Coordinator)
Tel.: (705) 869-2020 Fax: (705) 869-4862
Lebel-sur-Quevillon Facility, Lebel-sur-Quevillon, QC
Paul Lafrenière
Tel.: (819) 755-2254
Ottawa/Hull Plant, Ottawa, ON
Josée Beaulne (Environmental Chemist)
Tel.: (613) 782-2600 Fax: (613) 782-2515
St. Catharines Facility, St. Catharines, ON
Raman Nayar
Tel.: (514) 848-5273
Windsor Facility, Windsor, Que
Robert Dufresne or Patsy Inglis
Tel.: (819) 845-8431

Donohue Forest Products Inc.
Jacques Angers (Vice-President, Environment and Energy)
Tel.: (514) 847-7700 Fax: (514) 847-7780
qaj@cdm.org
St-Félicien Pulp, St-Félicien, QC
Éric Arsenault
Tel.: (418) 679-4545 Fax: (418) 679-4271
fae@donohue.ca

F. F. Soucy Inc.
Nicolas Cloutier (Procedure Engineer)
Tel.: (418) 862-6941 Fax: (418) 867-1134
nicholascloutier@soucy.brant-allen.com
F. F. Soucy Plant, Rivière-du-Loup, QC

Irving Pulp & Paper, Ltd.
Richard W. McLean
Tel.: (506) 635-5001 Fax: (506) 635-1039
mclean.richard@irvingpulp.com
Irving Pulp & Paper and Irving Tissue, Saint John, NB

Kimberly-Clark Corporation
Kimberly-Clark Nova Scotia, New Glasgow, NS
Dayle Smith (Environmental Control Supervisor)
Tel.: (902) 752-8461 Fax: (902) 752-9149
dcsmith@kcc.com

Appendix 4 LIST OF ARET PARTICIPANTS

Terrace Bay Pulp, Terrace Bay, ON
Rodger Ferguson (Environmental Coordinator)
Tel.: (807) 825-9821 Fax: (807) 825-3322

Kruger Inc.
Robert Jobin (Corporate Environmental Manager)
Tel.: (514) 343-3100 Fax: (514) 343-3138
rjobin@kruger.com
Corner Brook Pulp & Paper Ltd, Corner Brook, NF
Tel.: (709) 637-3000 Fax: (709) 634-1559
Kruger Inc. & Kruger PTR Inc., Trois-Rivières, QC
Tel.: (819) 375-1691 Fax: (819) 375-3163
Kruger Inc. & Kruger Urban Forest Products, Bromptonville, QC
Tel.: (819) 846-2721 Fax: (819) 846-6252

Marathon Pulp Inc.
Susan Nakanishi (Environmental Coordinator)
Tel.: (807) 229-3621 Fax: (807) 229-3636
Marathon Pulp Mill (formerly a Fort-James Marathon Inc. Facility), Marathon, ON

Nexfor Inc.
John Roberts (Vice-President, Environment)
Tel.: (416) 643-8839 Fax: (416) 643-8829
robertsj@nexfor.com
Edmunston Sulphite Pulp - Fraser, Edmundston, NB
La Sarre Oriented Strandboard - Norboard, La Sarre, QC
Masson Newsprint - James Maclaren (SOLD), Masson, QC
Prince George Kraft Pulp - Northwood P & T (SOLD), Prince George, BC
Thurso Kraft Pulp - Fraser Papers Inc. (Canada), Thurso, QC
Val d'Or Oriented Strandboard - Norboard, Val d'Or, QC

Norampac Inc.
Red Rock Mill, Red Rock, ON
Robert Clark
Trenton Mill, Trenton, ON
Samuel Clements

Norske Skog Canada
Tel.: (604) 654-4000
Crofton Pulp and Paper (Formerly a Fletcher Challenge Ltd. facility), Crofton, BC
Graham Kissack (Environmental Coordinator)
Tel.: (250) 246-6227 Fax: (250) 246-6369
Elk Falls Pulp and Paper (Formerly a Fletcher Challenge Ltd. facility), Campbell River, BC
Chuck Easton (Environmental Supervisor)
Tel.: (250) 287-5200 Fax: (250) 287-5480
Paper Mills - Powell River and Port Alberni (Formerly a MacMillan Bloedel Ltd. facility), Powell River, Port Alberni, BC
Drew Kilback (Manager, Environmental Affairs)
Tel.: (604) 483-2850 Fax: (604) 448-3294

Perkins Papers Ltd.
Jean-Robert Brunelle
Tel.: (514) 444-6400
Candiac Tissue Mill, Laval, QC

Pope & Talbot Ltd.
Ken Morrison (Senior Process Technologist)
Tel.: (250) 722-4266 Fax: (250) 722-4330
ken_morrison@poptol.com
Harmac Pulp Operations, Nanaimo, BC
Mackenzie Pulp (Formerly a Fletcher Challenge Ltd. Facility), Mackenzie, BC
Rick Hogan (Environmental Coordinator)
Tel.: (250) 997-2448 Fax: (250) 997-2456
Rick_Hogan@poptal.com

Skeena Cellulose Inc.
Murray Webster (Technical & Customer Service Manager)
Tel.: (250) 624-0325 Fax: (250) 624-0311
Skeena Pulp Operations, Prince Rupert, BC
Patrick O'Brien (Technical Supervisor, Environment)
Tel.: (250) 624-0373 Fax: (250) 624-0337
obrienp@skeenapulp.com

Smurfit-Stone Container Corporation Canada
Paul Tessier (Director, Environment)
Tel.: (514) 861-2204
tessierp@stlaurent.com
La Tuque Plant, La Tuque, QC
Matane Plant, Matane, QC
Thunder Bay Packaging Mill, Thunder Bay, ON

Spexel Inc.
Étienne Clermont (Senior Technician, Environment)
Tel.: (450) 225-7264 Fax: (450) 225-7265
Specialty Fine Papers, Beauharnois, QC

Spruce Falls Inc.
Ken Munnoch (Environmental Chemist)
Tel.: (705) 337-1311 Fax: (705) 337-9807
kmunnoch@ntl.sympatico.ca
Newsprint and Saw Mills, Kapuskasing, ON

St. Anne Nackawic Pulp Company Ltd.
M.A. Robitaille (Manager, Technical & Environmental Services)
Tel.: (506) 575-3373 Fax: (506) 575-2793
mike.robitaille@stanne-nackawic.com
Nackawic Pulp Mill, Nackawic, NB
Nathalie Irving (Environmental Engineer)
Tel.: (506) 575-3243 Fax: (506) 575-3282
nathalie.irving@stanne-nackawic.com

StoraEnso North America
Derrick Cameron (Manager, Environment and Technical Services)
Tel.: (902) 625-6149 Fax: (902) 625-2098
Derrick.Cameron@Storaenso.com
StoraEnso Port Hawkesbury, Port Hawkesbury, NS

Stradacona Inc. (formerly Daishowa Inc.)
Marcel Barrière (Environment Division)
Tel.: (418) 525-2719 Fax: (418) 525-2897
marcelba@daishowa.qc.ca
Québec Division (formerly a Diashowa Inc. facility), Québec, QC

Strathcona Paper Company
Bryan Best (Chief Operating Officer)
Tel.: (613) 378-6672 Fax: (613) 378-6158
bestb@strathconapaper.com
Napanee Plant, Napanee, ON
Frank Dorrington
Tel.: (613) 378-6672 Fax: (613) 378-6158
dorringtonf@strathconapaper.com

Tembec Inc.
Line Roy (Director, Environment)
Tel.: (819) 627-4454 Fax: (819) 627-1458
tlroy@tembec.ca
Temiscaming complex, Témiscaming, QC

Tembec Inc. - Pulp Group
Brian Stevenson (Environmental Supervisor)
Tel.: (250) 422-3983 Fax: (250) 422-3932
Pulp Mill Division (formerly a Crestbrooke Industries facility), Skoockumchuck, BC

UPM - Kymmene Miramichi Inc (Formerly Repap New Brunswick)
Phil Riebel
Tel.: (506) 627-5240 Fax: (506) 627-3608
Groundwood Division (formerly a Repap New Brunswick facility), Miramichi, NB
Ian MacLean
Tel.: (506) 627-5157 Fax: (506) 627-3608
Kraft/Paper Division (Formerly a Repap New Brunswick facility), Miramichi, NB
Ian MacLean
Tel.: (506) 627-5157 Fax: (506) 627-3608

Weldwood of Canada Limited
JoAnne Volk (Environmental Superintendent)
Tel.: (780) 865-8529 Fax: (780) 865-8550
joanne_volk@weldwood.com
Hinton Division, Hinton, AB

Weyerhaeuser Canada Ltd. - B. C. Division
Brian Gavin (Director Corporate Environmental Services)
Tel.: (604) 661-8373 Fax: (604) 685-1115
brian.gavin@weyerhaeuser.com
Engineered Wood Products: k3 & Multiply (Formerly a MacMillan-Bloedel facility), Vancouver, Nipigon, BC;,ON
Kamloops Pulp Mill, Kamloops, BC
Brian Yamelst (Process Engineer)
Tel.: (250) 828-7325 Fax: (250) 828-7585
brian.yamelst@weyerhaeuser.com

Weyerhaeuser Canada Ltd. - Saskatchewan Division
Dryden Operations, Dryden, ON
Phil Slack (Environmental Supervisor)
Tel.: (807) 223-9408 Fax: (807) 223-9431
pslack@bowater.com
Prince Albert Pulp & Paper, Prince Albert, SK
Tony Kaptein (Environmental Coordinator)
Tel.: (306) 953-1856 Fax: (306) 764-8886
Kapteit@wdni.com

Weyerhaeuser Company Ltd. - Alberta Division
John Mackenzie (Director, Environmental Affairs)
Tel.: (604) 611-8018 Fax: (604) 685-1115
john.mackenzie@weyerhaeuser.com

Drayton Valley OSB and Sawmill, Drayton Valley, AB
R.M. (Bob) Olson (Engineering Manager)
Tel.: (780) 452-5395 Fax: (780) 454-3075
bob.olson@weyerhaeuser.com

Edson OSB Mill, Edson, AB
R.M. Olson (Engineering Manager)
Tel.: (780) 452-5395 Fax: (780) 454-3075
bob.olson@weyerhaeuser.com

Grande Prairie Operation, Grande Prairie, AB
Susanna Chung (Environment, Lab Services Coordinator)
Tel.: (780) 539-8131 Fax: (780) 539-8319
susanna.chung@weyerhaeuser.com

Slave Lake OSB Mill, Slave Lake, AB
R.M. Olson (Engineering Manager)
Tel.: (780) 452-5395 Fax: (780) 454-3075
bob.olson@weyerhaeuser.com

STEEL

Algoma Steel Inc.
Jerry A. Suurna (Manager, Safety, Environment & Emergency Services)
Tel.: (705) 945-2371 Fax: (705) 945-2972
jasuurna@algoma.com

Steelworks, Sault Ste. Marie, ON
W. Craig Knight (Senior Environment, Health & Safety Officer)
Tel.: (705) 945-3149 Fax: (705) 945-2972
cknight@algoma.com

Atlas Specialty Steels, Division of Atlas Steels Inc.
Dan Doyle (Manager, Environment & I.E.)
Tel.: (905) 735-5661 Fax: (905) 735-3110
doyled@atlassteels.com

Welland Factory, Welland, ON
Darren Wolek (Environmental Coordinator)
Tel.: (905) 734-5017 Fax: (905) 735-3110
wolekd@atlassteels.com

Atlas Stainless Steels, Division of Atlas Steels Inc.
Marcel Martellini (Industrial & Environmental Director)
Tel.: (450) 746-5274 Fax: (450) 746-5283
marcel.martellini@atlasstainless.com

Tracy Facility, Tracy, QC

Co-Steel Lasco
T.B. Wesolowski
Tel.: (905) 668-8811 Fax: (905) 668-9361

Whitby Steel Mini-Mill, Whitby, ON

Dofasco Incorporated
Tom McGuire (Manager, Environment & Energy)
Tel.: (905) 548-7200 Fax: (905) 548-4267
tom_mcguire@dofasco.ca

Hamilton Operation, Hamilton, ON
Craig McGinlay (Environmental Specialist)
Tel.: (905) 548-7200 Fax: (905) 548-4267
craig_mcginlay@dofasco.ca

Genfast Manufacturing Co.
D. Webster (Supervisor, Plant Engineering)
Tel.: (519) 754-4400 Fax: (519) 759-2055
doug.webster@sympatico.ca

Fastener Manufacturing Plant, Brantford, ON

Gerdau Courtice Steel Inc.
Robert J. Downie (Environmental Coordinator)
Tel.: (519) 740-2488 Fax: (519) 740-2601

Cambridge Steel Mini-Mill, Cambridge, ON

Gerdau MRM Steel
Dennis Heinrichs (Environmental Officer)
Tel.: (204) 482-3241 Fax: (204) 482-8532
dheinrichs@mrmsteel.com

Selkirk Steel Mini-Mill, Selkirk, MB

Ivaco Rolling Mills Limited Partnership
John M. Dechman (Environmental Engineer)
Tel.: (613) 675-4671 Fax: (613) 675-2407
jdechman@ivaco.com

Rod Mill and Melt Shop, L'Orignal, ON

Slater Steels Inc.
Keith Gordon (Environmental Engineer)
Tel.: (905) 548-5285 Fax: (905) 549-4652
kgordon@slater.com

Hamilton Specialty Bar, Hamilton, ON

Stelco Inc.
T.F. Huxley (General Manager – Health, Safety & Environment)
Tel.: (905) 528-2511 Fax: (905) 577-4441

AltaSteel Ltd., Edmonton, AB
Alvin Bortnick (Manager, Engineering)
Tel.: (780) 468-7380 Fax: (780) 468-7301
abortnick@altasteel.com

CHT Steel Company Inc., Richmond Hill, ON
A.L. Armstrong (Production Manager)
Tel.: (905) 884-5000 Fax: (905) 884-6043

Hilton Works, Hamilton, ON
D.J. McLaren (Environmental Specialist, Utilities)
Tel.: (905) 527-8335 Fax: (905) 308-7040

Lake Erie Steel Company Ltd., Nanticoke, ON
G. Saldanha (Superintendent – Environmental Affairs & Industrial Hygiene)
Tel.: (519) 587-4541 Fax: (519) 587-7707

Stelco McMaster Ltd., Contrecoeur, QC
Luc Chabot (Environment Director)
Tel.: (450) 587-1112 Fax: (450) 587-1105
lchabot@sml.qc.ca

Stelfil Ltd., Lachine, QC
Denis Barras (Engineering & Maintenance Manager)
Tel.: (514) 367-2424 Fax: (514) 367-2408

Stelpipe Ltd., Welland, ON
Kent Li (Staff Specialist - Mechanical Engineering)
Tel.: (905) 735-7473 Fax: (905) 735-2055
kent.li@stelco.ca

Stelwire Ltd., Burlington Works, Burlington, ON
T.J. Wilson (General Supervisor)
Tel.: (905) 528-9473 Fax: (905) 577-4577
twilson@stelwire.com

Stelwire Ltd., Parkdale Works, Hamilton, ON
D.D. Strong (General Supervisor, Maintenance & Environmental Control)
Tel.: (905) 528-2511 Fax: (905) 577-4408

Welland Pipe Ltd., Welland, ON
L. Ventresca (Environmental Supervisor)
Tel.: (905) 735-8338 Fax: (905) 735-4387

Sydney Steel Corporation
Joel MacLean (Manager, Environment & Energy)
Tel.: (902) 564-7900 Fax: (902) 564-7905
macleanj@sysco.ns.ca

Sydney Steel Mill, Sydney, NS

Appendix 5 OTHER ARET PARTICIPANTS AND SUPPORTERS

The following companies and organizations submitted qualitative action plans outlining their commitments to reduce releases of ARET substances. Contact information for these companies can be found in Appendix 4.

Alberta Power Limited
British Columbia Hydro and Power Authority
Department of National Defence
East York Hydro-Electric Commission
Environment Canada
EPCOR - Edmonton Power
Manitoba Hydro
National Capital Commission
New Brunswick Power Corporation
Newfoundland and Labrador Hydro Corporation
Newfoundland Light & Power Co. Limited
Procter & Gamble Inc.
Rauscher Plating Limited
SaskPower
Theratronics International Limited
Tolko Manitoba
Winnipeg Hydro

The following companies and organizations support the ARET process and have indicated that they emit nil or negligible quantities of ARET substances.

A.S. Paterson Company Limited
Agriculture and Agri-Food Canada
Air Products Canada Ltd.
Akzo Nobel Chemicals Ltd.
Albarrie Canada Ltd.
Albright & Wilson Americas
Alcatel Cable
Allied Signal Canada Inc.
Alpha/Owens Corning Canada
Aluminerie Alouette Inc.
Aluminerie de Bécancour Inc.
Aluminerie Lauralco Inc., A Division of Alumax
Amway of Canada, Ltd.
Armstrong Manufacturing Company
Aromatics & Flavours Inc.
ASL Analytical Service Laboratories Ltd.
Azco Industries Ltd.
Bennett Fleet (Chambly) Inc.
BetzDearborn Canada Inc.
BHP Diamonds
Boehme Filatex Canada Inc.
Bovar Environmental
Bush Boake Allen Canada Inc.
Canadian Biodiversity Informatics Consortium
Canadian Niagara Power Company, Limited
Canadian Security Intelligence Service
Cascades - Plasticharge International Inc.
Cascades Inc. - Joliette, Jonquière, Sealed Air & Plasticharge
Cascades Joliette Inc.
Cascades Jonquière Inc.
Cascades Sealed Air Inc.
CCH Canadian Limited
CCL Custom Manufacturing, Islington Plant
CCL Custom Manufacturing, Rexdale Plant
CDM Laminates Inc.
Chemprox Chemicals Inc.
Chetwynd Pulp Company
Church & Dwight Ltd./Ltée
Churchill Falls (Labrador) Corporation Limited
City of Calgary Electric System
Consolidated Bottle Co.
Consumers Gas
Cryovac Division, W.R. Grace & Co. of Canada Ltd.
Degussa Canada Ltd.
Denison Mines Limited
Desbiens Products
Diavik Diamond Mines (formerly Kennecott)
Diversey Lever Inc.
Donohue Forest Products Inc. (Amos, Baie-Comeau, Clermont, Thorold)
Donohue Malbaie Inc.
Donohue Matane Inc.
Dow Corning Canada Inc.
Dowbrands Canada Inc.
Dynatec International Limited
Enviromega Inc.
Fisher Controls Inc.
FMC of Canada Limited
Gartner Lee Ltd.
GE Aircraft Engines
GE Apparatus Technical Services
GE Canada
GE Capital Railcar
GE Hydro
GE Silicones
Givaudan-Roure
Glassine Canada
Golden Knight Resources
Greif Containers Inc.
Haarmann & Reimer
Health Canada
Helmitin Canada Inc.
Henkel Canada Limited
Hillsborough Resources Limited
Home Hardware Paint & Chemical Division
Huls Canada Inc.
Huntsman Chemical Company of Canada Inc.
Industry Canada
Iron Ore Company of Canada
ISP (Canada) Inc.
K-G Packaging, A Division of CCL Industries Inc.
Kelcoatings Limited
Kerr Adison Mines Ltd.
Kingsley & Keith (Canada) Inc.
Kleen-Flo Tumbler Industries Ltd.
Laidlaw Environmental Services Ltd.
Lake Utopia Paper
Lawson Products Inc.
Lever Industrial
Lever Ponds, A Division of U L Canada Inc.
Louisiana Pacific Canada Ltd.
LPM Technologies Inc.
MacMillan Bloedel - Sturgeon Falls Mill
Malette Québec, Malette Paper Division
Manta Industries Limited
Marsulex Inc.
Mazarin Mining Corporation / AlumiCa Inc.
MDS Nordion Inc.
Millar Western Forest Products - Whitecourt Pulp
Minas Basin Pulp & Power Co. Ltd.
MITEL Corporation
Moli Energy (1990) Limited
Monopros Limited
Monsanto Canada Inc. - Searle and Morden Plants
Nanisivik Mines Ltd.
National Research Council of Canada
National Silicates Ltd. (all facilities)
Northgate Exploration Limited
Novartis Pharma Canada Inc. (formerly Ciba- Geigy)
Nucro-Technics Inc.
Ontario Hydro Service Company
Outokumpu Mines Ltd.
Petresa Canada Inc.
Pioneer Chemicals Canada Inc.
Potacan Mining Company
Precision Valve Canada Ltd.
Prospec Chemicals
QIT/Fer et titane Inc.
Quebec Cartier Mining Company
Raisio Chemicals Canada Inc. (formerly Diachem)
Raylo Chemicals, A Laporte Organics Company
Reichhold Limited, Port Moody
Reichhold Limited, Weston
Reynolds Metals Ltd.
Rochester Midland Limited
RohMax Canada Co.
Scholle Canada Ltd.
Serrener Group Inc.
Sika Canada Inc.
Slave Lake Pulp
Smithkline Beecham Pharma Inc.
Sonoco Ltd.
St-Jean Photochemicals Inc.
Stablex Canada Inc.
Sulzer Canada Inc.
Teck Corporation (now merged with Cominco, now Teck Cominco)
The Power Commission of the City of Saint John
The Sherwin-Williams Company
The Yukon Electrical Company Limited
Toronto Hydro
Trojan Technologies Inc.
Uniforêt Scierie-Pâte Inc., Pulp Division
Wajax Fluid Power (formerly Hydracine Fluid Power)
Water and Earth Science Associates Ltd.
Weldwood Canada - HI-ATHA Sawmill Division
Win Chemicals Limited
WMC International Limited - Americas Division

Appendix 6 ARET STAKEHOLDERS COMMITTEE MEMBERS

Chemical Institute of Canada
Roland Andersson, Executive Director
Institute for Chemical Process and Environmental Technology
130 Slater Street, Suite 550
Ottawa, ON K1P 6E2
Tel: (613) 232-6252 Ext. 222
Fax: (613) 232-5862
E-mail: randersson@cheminst.ca

Comité de santé environnementale du Québec
104, rue Lois
Gatineau, QC J8Y 3R7
Tel: (819) 777-3871
Fax: (819) 777-0271

Canadian Manufacturers and Exporters
Nancy Coulas, Director, Environmental Policy
The Alliance of Manufacturers and Exporters Canada
1 Nicholas Street, Suite 1500
Ottawa, ON K1N 7B7
Tel: (613) 238-8888 Ext. 234
Fax: (613) 563-9218
E-mail: nancy_coulas@cme-mec.com

Aluminum Industry Association
Christian Van Houtte, President
1010 Sherbrooke Street West, Suite 1600
Montreal, QC H3A 2R7
Tel: (514) 288-4842
Fax: (514) 288-0944
E-mail: associa@aluminium.qc.ca

Canadian Chemical Producers' Association
David Shortt, EH&S Regulatory Affairs Leader
EH&S Regulatory Affairs
Dow Chemical Canada Inc.
1086 Modeland Road
P.O. Box 1012
Sarnia, ON M7T 8C6
Tel: (519) 339-5268
Fax: (519) 339-3417
E-mail: dshortt@dow.com

Canadian Electricity Association
Channa Perera, Researcher
66 Slater Street, Suite 1210
Ottawa, ON K1P 5H1
Tel: (613) 230-9527
Fax: (613) 230-9326
E-mail: perera@canelect.ca

The Canadian Consumer Specialty Products Association
Edwin Berry, Vice-President
130 Albert Street, Suite 800
Ottawa, ON K1P 5G4
Tel: (613) 232-6616
Fax: (613) 233-6350
E-mail: berrye@ccspa.org

Canadian Petroleum Products Institute
Adolfo Silva, Director - Environmental Affairs
20 Adelaide East, Suite 901
Toronto, ON M5C 2T6
Tel: (416) 492-5677
Fax: (416) 492-2514
E-mail: adolfosilva@cppi.ca

Forest Products Association of Canada
Jean-Pierre Martel, Senior Vice-President, Forestry and Energy
Forest Products Association of Canada
99 Bank Street, Suite 410
Ottawa, ON K1P 6B9
Tel.: (613) 563-1441
Fax: (613) 563-4720
E-mail: jpmartel@fpac.ca

Canadian Steel Producers' Association
Ross Kent, Environmental Program Specialist
Stelco Inc.
Stelco Tower, P.O. Box 2030
Hamilton, ON L8N 3T1
Tel: (905) 528-2511 Ext. 4201
Fax: (905) 577-4441
E-mail: rkent@stelco.ca

Mining Association of Canada
Justyna Laurie-Lean, Vice-President Environment and Health
350 Sparks Street, Room 1105
Ottawa, ON K1R 7S8
Tel: (613) 233-9392 Ext. 313
Fax: (613) 233-8897
E-mail: jlauriel@mining.ca

Provincial Government (representing the Canadian Council of Ministers of the Environment)
Harry Vogt, - Manager, Industry and Business Section
Environmental Resource Management
B.C. Ministry of Water, Lands and Air Protection
P.O. Box 9342, Stn Prov. Govt.
Victoria, BC V8W 9M1
Tel: (250) 387-9953
Fax: (250) 953-3856
E-mail: Harry.Vogt@gems6.gov.bc.ca

Brent Baxter,
Resource Management and Environmental Protection
Nova Scotia Department of Environment and Labour
5151 Terminal Road, 5th Floor
P.O. Box 697
Halifax, NS B3J 2T8
Tel: (902) 424-2386
Fax: (902) 424-0501
E-mail: baxterbk@gov.ns.ca

Barbara Johnston, Assistant Director Environmental Partnerships
Ontario Ministry of the Environment
40 St. Clair Avenue West, 12th Floor
Toronto, ON M4V 1M2
Tel: (416) 314-3912
Fax: (416) 314-7930
E-mail: johnstba@ene.gov.on.ca

Government of Canada
James Riordan, Executive Director
National Office of Pollution Prevention
Environment Canada
351 St. Joseph Boulevard, PVM Bldg., 13th Floor
Gatineau, QC K1A 0H3
Tel: (819) 953-3353
Fax: (819) 953-7970
E-mail: James.Riordan@ec.gc.ca

Lorraine Seed, Senior Evaluator Environmental Substances Division
Health Canada
Tunney's Pasture, Building 8, Room 233
Ottawa, ON K1A 0L2
Tel: (613) 957-9575
Fax: (613) 941-4546
E-mail: Lorraine_Seed@hc-sc.gc.ca

John Dauvergne, Team Leader, Sustainable Development
Environmental Affairs Branch
Industry Canada
235 Queen Street
Ottawa, ON K1A 0H5
Tel: (613) 952-2265
Fax: (613) 954-3419
E-mail: john.dauvergne@ic.gc.ca

ARET Secretariat

John de Gonzague, Manager
Brad Fisher
Environment Canada
351 St. Joseph Boulevard, PVM Bldg., 13th Floor
Gatineau, QC K1A 0H3
Tel: (819) 953-9339
Fax: (819) 953-7970
E-mail: aret@ec.gc.ca